U.S. FOREST SERVICE LOGGING PROGRAMS NEAR BANDELIER NATIONAL MONUMENT, NEW MEXICO: A LEGAL STUDY

by

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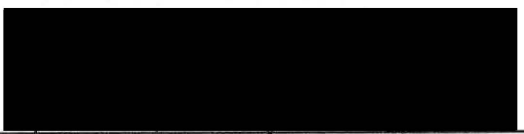

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This thesis is an analysis of the legal problems and inter-agency conflicts associated with U.S. Forest Service logging programs close to the boundary of Bandelier National Monument, New Mexico. This work is based primarily on comparison of statutes to agency programs, interviews with National Park Service personnel, U.S. Forest Service workers, and citizen activists in New Mexico, as well as research into historical documents. This study specifically

describes the (a) legal background of external threats to national park environmental qualities, (b) the history of external threats to Bandelier and those posed by the U.S. Forest Service in particular, (c) the ecological problems for parks posed by nearby logging operations and, (d) the legal problems posed by logging near Bandelier National Monument.

This analysis revealed that the Forest Service interprets the National Environmental Policy Act and the National Forest Management Act as purely procedural acts with little relevance to actual management actions. I propose that the dominance of timber within Forest Service land management priorities prevents effective integration of environmental protection concerns within that agency. This thesis proposes that the scientific and legal theory of "ecosystem management" offers a broad, encompassing framework for protecting lands of the national park system as well as national forest lands by offering a framework for integrating environmental protection laws and an effective scientific approach to land management.

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For help with maps I owe thanks to Beth Mathews, Kerry Coyle and Dr. Craig Allen of Bandelier.

Special thanks to Sandra Ely for encouragement, empathy, and support through the many months that this project took.

DEDICATION

This work is dedicated to all those who shared trails and trailessness with me in the Jemez Mountains over the last three decades especially my father and my brothers and my mother who was never far away. I dedicate this to the the generation of Los Alamos elders who shared the New Mexico wilderness with an extremely fortunate generation of youth and taught us a sense of community and discipline that has followed me since.

I further dedicate this to the activists who work tirelessly year after year in the public interest without pay, with few thanks, and often in the face of intimidation, to help preserve the irreplaceable primal beauty of the Jemez Mountains. Individuals like Dr. Ted Davis, Tom Jervis, Sam Hitt, Henry Oat, and Dorothy Hoard deserve gala award ceremonies for their sacrifices in the face of staggering odds.

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which natural beauty reveals universal order. People like Don Usner of Chimayo, Bruce Bannerman of Santa Fe, Walter Sydoriak of Yosemite, and Sandra Ely of Eugene who seems to have been with me all along.

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CHAPTER I

INTRODUCTION

Throughout the Western U.S. and Alaska, national parks, monuments, and wilderness areas are becoming islands of wildness in the midst of growing urban areas and heavily exploited national forests. But when most national parks and monuments were set aside by Congress, they were set in the midst of large areas of wild land. Placing boundaries for the parks in this context might have seemed unimportant to Congress, since it was probably inconceivable then that the western wilderness would ever shrink as it has under the pressures of increasing human activity.

In 1990 the boundaries of most national parks and monuments are inadequate to protect the features those parks were established to enshrine. Intense human activity and destruction of wild lands comes to the very borders of all our national trust lands. At the same time, the public crowds into the national park system lands, seeking recreation and refuge from America's monotonous urban sprawl, and the logged and road-ravaged national forest system.

Bandelier National Monument in New Mexico is one of the more remarkable areas within the National Park System. It is an area of great and unusual natural beauty where the graceful features of mountain forests mix with Anasazi and early Pueblo ruins and deep canyons below sculpted desert-like cliffs. The gentle Jemez Mountains form the backdrop to the Monument, cloaked in dense forests and filled with a sense of wildness and ancient human presence (see Figure 1). But Bandelier is confronted with the same encroachments and population pressures facing larger parks like Yellowstone and Kings Canyon. As the population of New Mexico grows, the public is loving Bandelier to death.

The U.S. Forest Service which holds the huge national forest system as part of the U.S. Department of Agriculture, manages most of the wild land around Bandelier within the Santa Fe National Forest (see Figure 2). For its part, the Forest Service has done very little to accommodate the growing demands for quality recreation in northern New Mexico, but instead is carrying out a massive logging program in the Santa Fe National Forest that loses the public millions of dollars each year and leaves once beautiful forests slashed and rutted.

The National Park Service is an agency of the U.S. Department of the Interior while the Forest Service is part

of the U.S. Department of Agriculture. While the two agencies often find themselves managing parts of the same landscapes, they are far apart in their historical and philosophical origins. In the Jemez Mountains this split is becoming increasingly clear.

The situation at Bandelier and in the Jemez Mountains is critical. With a shrinking budget and an inadequate staff, the National Park Service faces a crisis with overcrowding and environmental degradation. While less than 500 visitors came to Bandelier in its first year, 1916, more than 300,000 visitors are expected to come to the monument in 1990. Efforts to gain some cooperation from the Forest Service to help alleviate the public and environmental pressures on the park have all but failed as the Forest Service continues a land management program more appropriate to the 1950's than to the close of the century.

In order to solve the problems at Bandelier and to avert a collapse in public support for the Forest Service, advanced land management programs involving landscape-wide, ecosystem level considerations must be instituted by both agencies in the very near future. In this, the Bandelier area is not unique. The problem here varies little in economic, political, or historic dimensions from that faced by most park regions in the Western U.S.

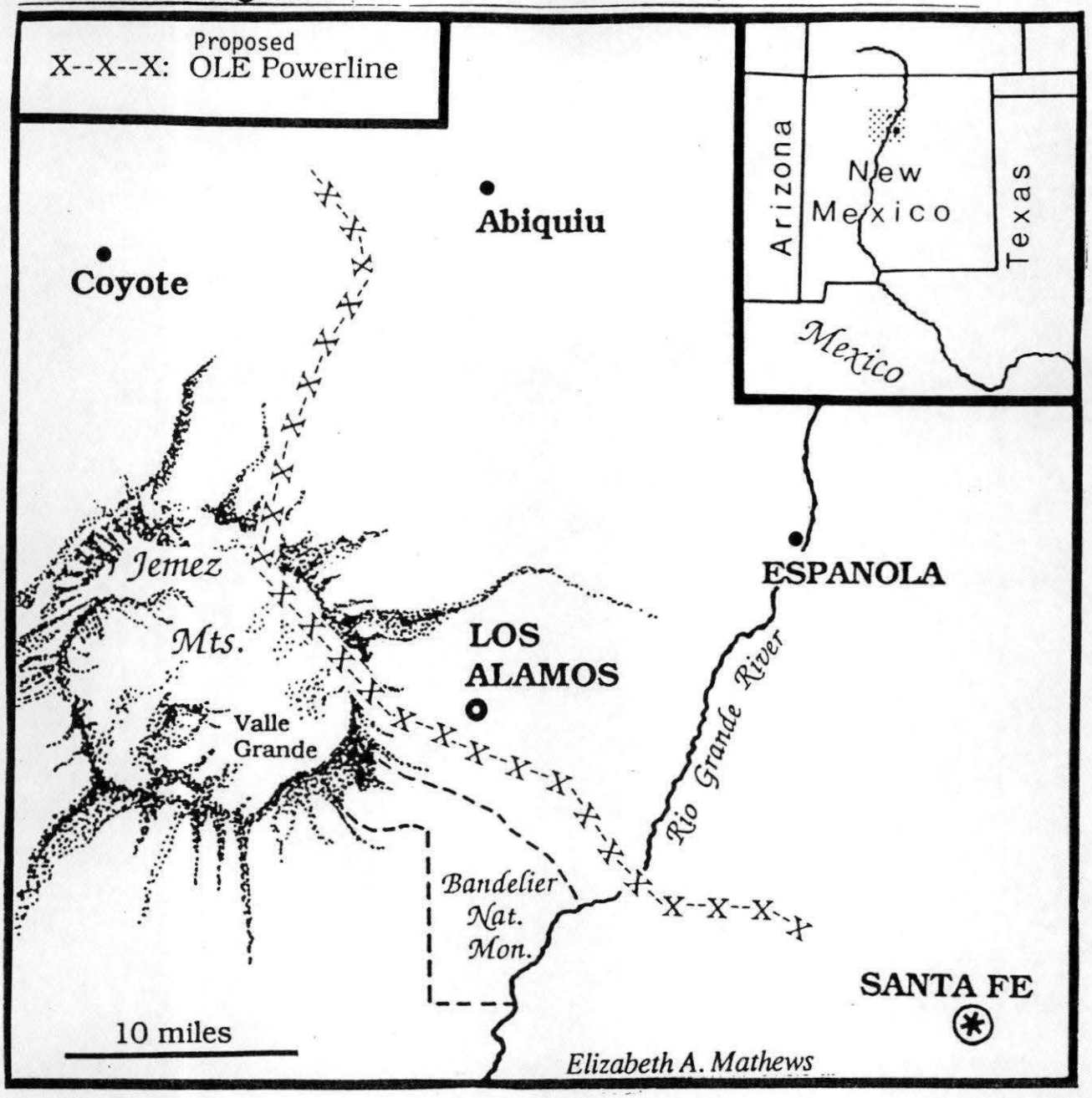

FIGURE 1 Map of the Bandelier National Monument Region of Northern New Mexico.

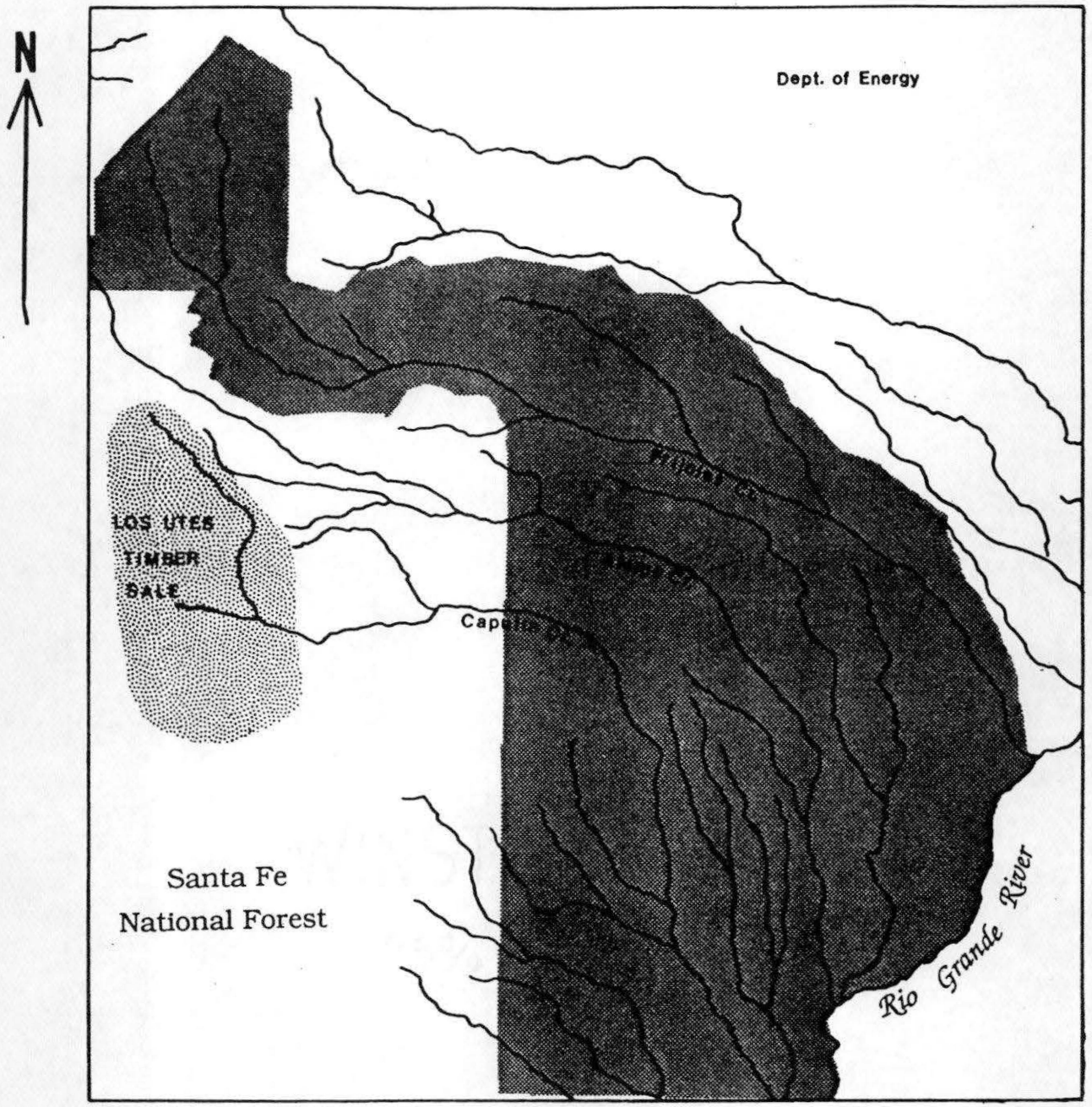

FIGURE 2 Map of Bandelier National Monument and its Watersheds Including the Los Utes Timber Sale.

The history of the Bandelier region is tumultuous. The monument's boundaries were drawn to enclose the major early Pueblo features of that section of the Pajarito Plateau. Bandelier's boundaries were drawn with little if any interest in the ecology of the area. Over the last seventy years, the number and range of wild creatures and plants in the Bandelier area has diminished rapidly.[1] In order to restore wildlife populations to near historic levels and to maintain a viable ecosystem around and in Bandelier, a significant shift in public and federal agency thinking must now occur.

To understand what is at stake in the Bandelier area, we must look back and see what was there before federal agencies came to the area. We must understand what has been lost at Bandelier, while maintaining a reverence for the unique and irreplaceable historical and prehistoric human context of the region.

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1. Several writers have described the wildlife populations of the Jemez in the middle part of the nineteenth century including Charles Lummis, Adolph Bandelier and the early park custodians whose reports are on file in the Bandelier National Monument archives.

Northern New Mexico

North-central New Mexico is dominated by a pair of mountain ranges above expansive semi-arid highlands. The eastern, larger range is the southern-most spine of the Rocky Mountains trailing down from Colorado. East of this mountain range, called the Sangre de Cristo (Blood of Christ), the great plains begin their expanse eastward into Oklahoma and Texas.

West of this long chain of peaks, the Rio Grande River flows through a twenty-mile wide valley it has cut over millions of years through the thousand foot thick sedimentary remains of Paleozoic mountain ranges which long ago were chiseled away by glaciers and washed into the valley of the Rio Grande.

West of the Rio Grande River valley, a relatively young volcanic mountain range stands alone, its eastern base closely cut by the southward flowing Rio Grande River. These are the Jemez (Hey-mez) Mountains. A broad plateau of soft volcanic stone spreads from the heights of these mountains in a broad shelf above the Rio Grande. Cut by the many streams that trickle from the peaks of the Jemez, deep canyons fall to the Rio Grande.

The Sangre de Cristo and Jemez ranges are of very different geologic origins and each has a grossly different form and appearance as a result. The Sangre de Cristo were uplifted along a long north-south fault, called the Rio Grande Rift, about 15 million years ago during the Miocene. Their dominant materials are metamorphosed Precambrian shales and limestones from about 1200 million years before the present.[2] The Sangre's rolling ramparts rise to a series of peaks dotted with alpine lakes. Canyons thousands of feet deep hold swift perennial streams that drain eastward into the Rio Pecos, which then runs through the plains of west Texas.

The Sangre de Cristo is a vast range of mountains, wild and dense with the affects of time and frequent summer rains and winter snows. Great forests of ponderosa pine and douglas and white fir shroud its middle elevations but these give way to stands of aspen, spruce, and bristlecone pine near timberline. Large meadows line lower ridges and top middle elevation peaks. Both rounded and jagged peaks top the range, Truchas Peak, the highest in New Mexico, stands near 14,000 feet above sea level. This is a range of seemingly indomitable wildness.

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2. D.E. Feray, and H.B. Renfro, Geologic Highway Map of the Southern Rocky Mountain Region, American Association of Petroleum Geologists, Tulsa, Oklahoma.

The Jemez Mountains

The Jemez Range is of recent volcanic origin, attaining its present form in the Pliocene about one and a half million years ago. The Jemez originated as a igneous ulcerate that formed along the Rio Grande faultline. Geologists believe that at an earlier time, the original Jemez Volcano may have been one of the premier mountains on the North American continent, reaching perhaps 25,000 feet in height. But the Jemez Volcano erupted violently in the Pleistocene, blasting 25 cubic miles of volcanic debris locally and far into the midwestern portion of the continent before collapsing on itself.[3] Today the Jemez Range is dominated by a large sunken caldera, surrounded by 11,000 foot mountains that mark the bulwarks of the old volcano.

The Jemez Mountains stand as a varied and unique landscape owing to their recent formation and the nature of the volcanic eruption. The Jemez peaks circle around a large grass-filled caldera called "Valle Grande," which is one of the largest calderas in the world, measuring 12 miles by 15 miles. These peaks are frocked with mixed conifer and aspen forests that trail down the long fingers of flat

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3. Roland A. Pettitt, Los Alamos Before the Dawn (Los Alamos, New Mexico: Pajarito Publications, 1972), p.6.

topped mesas radiating out in all directions from the central volcanic rim. The caldera rim and the plateau alike are divided by deep, densely forested canyons that empty into the Rio Grande River.

The mountains themselves are primarily hard basalt and obsidian, but a wide plateau of mesas spreads away to the east, south and west. The plateau consists of soft volcanic rock called "tuff" capped in places with harder basalt. The tuff has eroded quickly since the eruption, forming deep and abrupt canyons whose red-orange walls are pocked with large and small caves formed from gas pockets in the igneous material.

Pinon pine and juniper forests mixed with occasional ponderosa pine stud the mesas. Sage, yucca, and cholla cactus grow there as well. The canyon bottoms, depending on elevation, are forested with fir, ponderosa pine, canyon birch, aspen, cottonwood, box elder, and Rocky Mountain Maple. From the Rio Grande River level at 5,500 feet to the top of the Tsicoma Peak at 11,500 feet, the Jemez range encompases a wide range of forest types and a relatively high level of biological diversity.

Bandelier National Monument

Bandelier was set aside by presidential proclamation in 1916 when New Mexico had been freshly admitted to the Union.[4] President Woodrow Wilson proclaimed 22,400 acres of the Jemez National Forest Reserve "Bandelier National Monument" under the jurisdiction of the U.S. Forest Service in February 1916. This core area was delineated on maps to protect significant early Pueblo archaeological sites, especially the cliff dwelling ruins along the north wall of Frejoles Canyon and the adjacent canyon bottom ruins of Tyuonyi Pueblo.

Bandelier lies on the West flank of the Jemez Range, on the canyon cut Pajarito Plateau, were designated Bandelier National Monument, under provisions of the Antiquities Act.[5] Bandelier National Monument contains a stretch of land beginning at the Rio Grande river, crossing a broad area of plateau and canyons reaching to the top of one of the Jemez peaks. Bandelier contains four major canyons and the mesas that divide them and a wide variety of habitat types from Sonoran desert near the Rio Grande to mixed conifer forests on the Jemez peaks.

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4. 39 Stat. 225 Presidential Proclamation No. 1322.
5. 16 U.S.C. sec. 431-33.

The Jemez Mountains contain one of the highest densities of archaeological sites of any area in the United States. Bandelier National Monument contains more than 900 archaeological sites, more than any other unit of the national park system. The monument was set aside in 1916 to protect a significant concentration of these early Pueblo sites though they occur with almost equal density on most of the Pajarito Plateau and much of the high Jemez.

Past Bandelier Ecosystem Conditions

The western U.S. has lost much of the biological diversity which once graced the land. Accounts of trappers, early anthropologists and explorers describe far greater populations of large mammals and a greater diversity of virgin vegetation communities than can be found today. In the Jemez Mountains, as in all of the West, fire suppression and hunting of predators and large mammals has simplified the ecosystems. Cattle grazing has also compacted soil, damaged riparian zones, and greatly reduced the diversity of herbacious vegetation. Many exotic grasses and other plants associated with sheep and cattle grazing have displaced some native plant species.[6]

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6. George Wurthner, "Public Lands Grazing: What Benefits at What Cost?" *Western Wildlands* 16 (Fall 1989): 24.

Predators like Sonoran grizzly bears (Ursus pertubans) and wolves have been absent in the Jemez Mountains since the turn of the century.[7] Early Native American and trapper reports describe large populations of antelope, desert bighorn sheep, mink, beaver, and bear in the Bandelier area. Even the Rio Grande was full of numerous species of fish, long since extinct in the Rio Grande, which migrated from the Gulf of Mexico to spawn in the southern Rockies. Adolph Bandelier, the famous anthropological explorer, reported finding skulls of bighorn sheep in many Pueblo ruins on the Pajarito Plateau. The Rio Grande turkey was common into the 1960s.[8] Cougars, and grey fox were common according to Adolph Bandelier's accounts from the middle of the last century. The presence of the "Shrine of the Stone Lions" made by early Pueblo inhabitants on Alamo Mesa in Bandelier would seem to bear this out.

Mountain lions were sighted in Bandelier many times over the past decades and are still occasionally sighted in the Jemez. The National Park Service condoned the killing of nine cougars in upper Frejoles Canyon in 1932.[9] The Mexican wolf and the grizzly bear are gone from all of northern New

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7. Bandelier National Monument, *Custodian's Report* 1943. Park files.
8. Personal conversation with Mrs. Evelyn Frey, August 1988.
9. Report of Audrey E. Borell, Regional Wildlife Technician, NPS 1934, Bandelier Files.

Mexico and bighorn sheep, antelope, mink, and Rio Grande turkey are gone for the most part as well. Black bear, coyote, turkey, and bobcat are still present in Bandelier. The large herd of elk that today verges on overpopulation in the eastern Jemez and Bandelier is descended from a group of elk brought to the Jemez in 1948 from the Jackson Hole, Wyoming herd. This population replaced the native elk which had died out, probably due to hunting and disease.

In 1940 NPS Regional Biologist W.B. McDougall made some of the earliest official statements about the inadequacy of Bandelier's boundaries. McDougall was interested in the Rio Grande turkey which he noted was all but absent in other NPS holdings in the Southwest. He urged the Park Service to highlight the presence of this species in Bandelier and protect its habitat.[10] The turkey's habitat includes middle elevation snags and watering holes which were found outside of the Bandelier boundaries for the most part. McDougall was also concerned about the shortage of protected summer range for deer in the monument.[11]

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10. As noted earlier, the 1940s were a watershed period for the Jemez Mountains. Los Alamos was chosen as the site for the Manhattan Project and the population of the area increased radically while technology intensive culture gained a footing in the area. Until that time, the Jemez had been populated by Pueblo Indians, Hispanic settlers whose ancestors had been in New Mexico for hundreds of years, and a few settlers of European decent.
11. In the 1960's the deer population in Bandelier exploded. Starving deer, deformed deer, and severe

Most of the vertebrate species which have been lost were diminished by hunting or by habitat loss. As noted, the NPS itself was hunting predators in Bandelier and elsewhere until the 1930's.[12] Bighorn sheep died throughout the West as a result of domestic sheep diseases which were introduced to the herds while antelope diminished with the loss of the large unfenced areas of range that the animals require.

The forest ecology of the Bandelier area has changed greatly over time as well. Fire suppression since the 1920's has changed the structure and diversity of plant communities throughout the Jemez.[13] The large montane grasslands that characterize the high Jemez peaks have been greatly diminished since the regular fires that kept them free of brush and trees have become less common.[14] Likewise the structure of the forests, particularly the ponderosa pine forests, have been influenced by fire suppression.

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depletion of browse species were recorded by NPS officials at the time.

12. Alfred Runte, *National Parks, the American Experience*. 2nd ed. (Lincoln: University of Nebraska Press, 1987), p.111.

13. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley 1989), p. 76.

14. In the last few years, the NPS has been burning the one grassland it controls in an effort to eliminate intruding douglas fir and ponderosa pine. The NPS also sawed down large numbers of these trees on Cerro Grande in 1986.

Fire suppression has also affected the diversity of animal species found there.[15]

Fire suppression in particular has affected the Bandelier ecosystem. In 1977 the La Mesa Fire, which was started by a motorcycle on Forest Service land, crowned through 15,000 acres of the Bandelier region's forest. The fire was catastrophic because of the buildup of fuels such as down trees, pine needles, branches and small trees in the forest understory.[16]

Similarly, the density of trees in most Jemez forests is unnaturally high and many species dependant on more open conditions have diminished over time. Wildlife and plants dependant on open forest conditions or meadows find less of these habitats in the Jemez.[17] Thus, the Bandelier area ecosystem is much altered from the condition it was in before large numbers of European settlers moved to New Mexico.

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15. Fire suppression, like predator control is a management activity with roots in an agricultural view of the forest. Timber was protected from fire so it could be harvested just as predator control was carried out to protect species favored for hunting. The NPS has disposed of both of these practices as its philosophy has moved toward management of "natural" conditions over the last 20 years.
16. T.S. Foxx, and L.D. Potter, *Fire ecology at Bandelier National Monument* (At La Mesa Fire Symposium, Los Alamos Environmental Research Park publication, 1984).
17. Some may argue that selection logging or clearcutting may establish some of the conditions that fire suppression has eliminated in the Jemez. I reject this notion since the ecology of logged landscapes is disturbed on so many levels.

It is safe to assume then that the Jemez environment was vastly more diverse for hundreds of thousands of years than it is today. Not only were large forest fires common,[18] but these fires maintained a mosaic of forest conditions which fostered a wide variety of plant and animal species. Since the entire region was in a wilderness condition, migrations of animals from other areas was probably constant and foodchains complete with large predator species and humans were the norm. Populations of migrating birds and fish which are extinct or limited now probably had an important influence on the ecology of the region.

With the huge increase in human population in the area, the biological diversity of the Jemez Mountains has been much diminished. The National Park Service and the Forest Service along with the New Mexico Game and Fish Department[19] are in a positin to work to maintain what remains of the original biological diversity of the region and to help restore as much of the former species as is economically and politically possible.

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18. The Jemez Mountains have one of the highest levels of lightning strikes of any area in the United States.
19. According to law, the state wildlife agencies are charged with regulating fish and game management outside of national parks.

Legal Problems and Opportunities

The Bandelier ecosystem has been drastically altered by human activity. To prevent an irreversible degradation of the Bandelier ecosystem, the public and the state and federal agencies must understand the legal context of the National Park System, the Forest Service, and the specific Congressional mandates that are in place to protect the environmental quality of areas like the Bandelier landscape. A new degree of scientific involvement in land management and enforcement of existing laws will be necessary if Bandelier's natural environment will maintain its integrity into the next generation.

Beginning with a broad legal study of the national park system in general, I present the specific legal problems facing the national park system in the context of environmentally damaging activities on adjacent lands. Then I discuss the conflicts between the National Park Service and the U.S. Forest Service over management of the Bandelier region before detailing specific environmental problems around Bandelier.

I spend the bulk of my study on the problem of logging near Bandelier. This problem is similar throughout the West and readers concerned with other national park areas with

nearby national forest lands may find useful material in my study of a specific timber sale on Bandelier's boundary and the legal issues logging operations like it raise. Finally, I discuss "ecosystem management" as a progressive solution to the challenge of maintaining national park and monument ecosystems while accommodating an appropriate level of natural resource exploitation on ~~on~~ nearby national forest lands.

CHAPTER II

FEDERAL LAW AND EXTERNAL THREATS TO THE NATIONAL PARKS

Bandelier National Monument exists within the legal and historical framework of the national park system in general. Despite widespread public support, the parks and monuments nationwide face a plethora of legal and political problems relative to activities outside their borders.

National Parks and monuments are often monumental pieces of land, set aside and sanctified by the people through the National Park Service Organic Act of 1916.[1] According to the National Park Service, 259,400,000 people visited the national parks nationwide last year; a powerful testimony to their popularity in America. The American national park idea has spread to other nations.

Yet the mere existence of national parks in America represents the culmination of a long struggle among conflicting paradigms relating to the human place in the environment. Yellowstone National Park was established in 1872 by a few isolated voices speaking against the frontier momentum to privatize and develop natural resources. To

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1. 16 U.S.C. sec. 1-18(f).

many in 1872 and since, federal retention of land signaled a radical and possibly unconstitutional departure from the assumed role of the federal government as land broker and facilitator of free enterprise.

The creation of Yellowstone National Park in 1872 represented the end of the unfettered lassez faire frontier in America. It also represented the first meek institutionalization of a then-minority philosophical view of nature, championed by Thoreau, Emerson, and Muir, that recognized nature as having intrinsic value and worth beyond its utility to humans (this view emerged belatedly and painfully from more than 2,000 years of Judeo-Christian anthropocentrism and utilitarianism). Yet Yellowstone and Yosemite National Parks were only created after Congress was assured by the parks' proponents that the land proposed for preservation was "worthless" for other purposes.[2] The railroads who saw national parks as lucrative destinations to draw travelers to their lines and lobbied in favor of them.[3]

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2. Not everyone agrees with the idea that national parks were only established where lands were otherwise considered worthless. Though the "worthless lands" thesis seems consistent with the current spectrum of views of public lands, it has been eloquently disputed by Richard Sellars in *Journal of Forest History* 27, 1983.p. 130.
3. Alfred Runtie, *National Parks, the American Experience* 2nd ed. (Lincoln, University of Nebraska Press, 1987), p. 45.

Since these first two parks were established, the national park idea has become well entrenched in American political life and in the landscape of the nation. In 1990 there are 323 areas included in the national park system and these encompass more than 79 million acres of land from coast to coast and in Alaska, Hawaii, the Virgin Islands, and Puerto Rico.[4]

The National Park Service itself was established in 1916, long after a number of parks and monuments had been set aside by executive order or acts of Congress. Before the NPS was established, park areas were managed by the Forest Service, the US Army, or other agencies.

Today the national parks (and wilderness areas) have institutionalized a modest preservationist mandate within the government and our society. Yet despite their solid place in American life and public opinion, the national parks, as an idea, are fighting an uphill battle to retain their integrity in the face of the same philosophical and cultural resistance that sought to prevent their inception more than one hundred years ago.

Though the national park idea has existed longer than the concept of forest reserves or the "public domain," the NPS's sister federal agencies the US Forest Service and the

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4. U.S.D.I. National Park Service, Division of Public Affiars, *The National Parks Index*, 1985.

Bureau of Land Management have come to embody and institutionalize the much more prevalent and politically powerful utilitarian and anthropocentric view of the natural world. The current debates among preservationists and "multiple use" advocates seem like a parody of the age-old debate between romantic and utilitarian views of wild land. Within this debate and conflict the parks and the National Park Service consistently have maintained a lower political profile.

External Threats To National Parks

When most of the major natural area parks were established in the US, their boundaries were drawn from a seemingly endless wild landscape. Politicians and park designers included in most parks, with the notable exception of Yellowstone, the minimum amount of land necessary to encompass whatever feature the park was established to protect.

National Parks are established by an act of Congress while the Antiquities Act of 1906 allows the President to establish national monuments by executive order. In the past, national monuments were always managed by the National Park Service and generally were established to protect a historic site or prehistoric site such as Bandelier.

National Parks were generally large land areas set aside for their scenic or ecological values. However, for political reasons, President Carter established national monuments in Alaska that are more on the scale of national parks in terms of acerage and the features they protect. Also, Mt. St. Helens National Monument in Washington is managed by the U.S. Forest Service since the Forest Service was unwilling to transfer this area to the National Park Service even though it had been devastated by the eruption of Mt. St. Helens in 1980. Efforts to establish the El Malpais National Monument in New Mexico within the Bureau of Land Management in the late 1980s failed and that new monument went to the National Park Service.

With time development pressures on federal lands neighboring national parks has increased. As logging, mining, urbanization, and road and utility construction has increased, the inadequacy of most of the political boundaries drawn around the parks has become apparent to those interested in maintaining the ecological or aesthetic integrity of the parks. Because parks are established by political processes, their boundaries most often reflect political rather than scientific considerations, even in the case of the most recently established parks such as Great Basin National Park in Nevada and many of the Alaskan parks.

As scientific understanding of ecology has advanced it has become apparent that the current boundaries of most parks are inadequate to protect the central elements of the parks from development activities beyond the parks' boundaries. Watersheds are often incompletely protected, wildlife migration corridors are cut off and nearby seed sources for important plants are often lost. An increasing amount of litigation and political posturing is taking place as park advocates seek to protect the parks from nearby development by establishing buffers zones and protective legal precedents.

Legal Tools for Park Protection

To date the national parks have operated without strong, clear statutory protection from activities outside their boundaries. Today, the national parks are protected by a combination of statues such as the enabling legislation of the National Park Service, procedural laws such as the National Environmental Policy Act, and some broad substantive statutes. Development of case law has established a judicial context for these statues.

The National Park Service Organic Act[5] gives the NPS broad authority and defines congressional intent with regard

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5. 16 U.S.C. 1 (1916).

to park protection. But the language of the organic act straddles the fence between use and protection and is vague in areas that have become increasingly important since 1916 when the act was passed. The National Environmental Policy Act (NEPA),[6] the Antiquities Act,[7] the Endangered Species Act (ESA),[8] the National Historic Preservation Act,[9] and the Clean Air[10] and Water Acts[11] are most relevant to the problem of external threats to the parks.

The Organic Act

In 1916 Congress passed the "National Park Service Organic Act," which authorized the creation of the National Park Service (NPS) and also established a mandate for the Secretary of Interior to protect the national parks "so as to leave them unimpaired for the enjoyment of future generations." The Organic Act also mandates that the NPS provide recreation and enjoyment for the public. The NPS must simultaneously allow use of the parks while preserving them for the future.

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6. 42 U.S.C.A. sec. 4321-4370 (1977, Supp. 1984).
7. 16 U.S.C.A. sec. 431-433 (1974).
8. 16 U.S.C.A. sec. 1531-1543 (1974, Supp. 1985).
9. 16 U.S.C.A. sec. 470 (1974, Supp. 1985)
10. 42 U.S.C.A. sec. 7401-7642 (1983, Supp. 1985).
11. 33 U.S.C.A. sec. 1251-1376.

The Organic Act does not specify the Secretary's duties to protect the parks from external threats. The original 1916 version contains no language that has been successfully construed to provide the Secretary with the power to regulate activities beyond the boundaries of the parks. In 1978, Congress amended the Organic Act and strengthened the Secretary's protective mandate to a limited extent when logging operations were stripping the forests up the boundaries of Redwood National Park, threatening park environmental quality. The amendment directed the Secretary to manage the parks: "in light of the high public value and integrity of the National Park System" It goes on to say that such management "shall not be exercised in derogation of the values and purposes for which these various areas have been established."[12]

The 1978 amendment strengthens the protection mandate of the NPS slightly, but it has not been interpreted as a clear and decisive directive giving the Secretary regulatory powers beyond the boundaries of the parks. Moreover, perhaps sensing its vagueness, the NPS itself has not tested the authority of the amendment beyond its own boundaries either in court or in administrative procedures with other agencies.[13]

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12. 16 U.S.C.A. sec. 1a-1.
13. William Lockhart et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 31.

The strength of the 1978 amendment relative to other Congressional mandates for other agencies has likewise not been fully tested. In the 1978 amendment, Congress seemed to qualify the protective intent by writing that the management of national parks: "shall not be exercised in derogation of the values and purposes for which the various areas have been established, except as may have been or shall be directly and specifically provided by Congress."[14]

This clause leaves room for wide interpretation. Congress is vague as to what class of its "provisions" would trump the protection mandate of the Secretary with regards to national park and monument lands. Would the provisions of the Federal Land Policy and Management Act (FLPMA) trump the NPS Organic Act within this exception clause? Does this exception mean that the Congressional provisions establishing multiple use management on US Forest Service lands supersede the Secretary's mandate to protect the parks from activities on neighboring USFS lands that may affect the quality of the park environment?

Park preservation advocates argue that this exceptions clause should be read narrowly as referring only to Congressional mandates that "directly and specifically" conflict with the NPS Organic Act according to language in the Act. According to this reading, broad directives such

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14. 16 U.S.C. sec. 1a-1.

as the establishing acts and management provisions for the USFS or BLM would not supersede the NPS Organic Act as amended. If such broad mandates were judged to limit the protection provisions of the NPS Organic Act, it can be argued that the Organic Act would be broadly disarmed by the exception.[15]

To date the courts have given the Secretary wide discretion in interpreting the protective provisions of the Organic Act.[16] The pivotal case that spurred Congress to write the 1978 Amendment involved clear-cut logging on the boundaries of Redwood National Park.[17] The case, *Sierra Club v. Andrus*, which went through two appeals, established a limited precedent (on the Federal Circuit level) to the effect that the Secretary is only required to protect the

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15. Robert Keiter et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 77.
16. See *National Rifle Association v. Potter,* 628 F. Supp. 903. The case involved a challenge by the NRA to the Secretary's authority to ban hunting in national park areas where Congress had not specifically allowed hunting in its enabling legislation for the specific park or monument. The NRA failed to convince the court that the Secretary's exceeded his authority by regulating hunting as an effort to protect park resources.
17. *Sierra Club v. Andrus* 487 F. Supp. 443. The Sierra Club sought to compel the Secretary to impose controls on logging activities in the watersheds that also contained park lands. The plaintiffs sought to construe public trust authority on the NPS with regards to park protection from external threats. The court seemed to accept the relevance of the public trust doctrine in an early ruling but later ruled that the Secretary's duty to protect Redwood from external threats did not extend beyond specific statutory authority.

parks from external threats that have been specifically identified and for which he has the direct financial and statutory tools with which to act.

The NPS has done little to assert a broader authority that many believe is containted within the language of the Organic Act, its 1978 amendment, and in *Sierra Club*. To date no body of legal precedents has been established to institutionalize a broad duty to influence activities beyond park boundaries that affect the parks themselves.

Common Law and the Parks

Two tangents of common law are relevant to the problem of external threats to national park lands; nuisance law and the public trust doctrine. These legal theories have been applied in specific situations and in conjunction with statutory provisions such as the Clean Water Act, the Clean Air Act, and the Endangered Species Act. All these statues have proven useful in protecting parks from external actions.

Nuisance law provides one property owner with a remedy if a neighboring owner engages in an action that damages his property rights. Originating in private tort law, the concept of nuisance has been applied to public situations and public lands. As in civil law, if a park's neighbor

does something that damages the park or its visitors, the park or those with standing in the case can sue for injunctive relief from the nuisance activity. The law has been applied to disputes between states and private land owners and to a limited extent to public lands.[18] It provides strong possibilities for broad national park protections provided problems of standing are carefully worked out.

The nuisance concept was tested in Montana in *United States v. Atlantic Richfield*.[19] In that case the US Forest Service (Flathead National Forest) and the National Park Service (Glacier National Park) alleged that fluoride emissions from a corporate facility were damaging the aesthetic and ecological qualities of federal lands despite the fact that the offending plant was in compliance with the Clean Air Act. The case was based on trespass law as much as nuisance law. The court granted an injunction against the plant according to the common law claims which, according to the court, preempted the more specific provisions of the Clean Air Act.

A nuisance by definition is an offensive situation. While nauseating odors or rotting cattle corpses have always been accepted as universally offensive, society's

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18. Mark Squillance et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 89.
19. 478 F. Supp. 1215 (D. Montana 1979).

sensibilities and sensitivity to other aesthetic intrusions has been evolving only slowly over time. The courts have, for the most part, broadened their interpretation of nuisance law incrementally. Certainly not all developments that are offensive to preservationists in the context of the national parks have been accepted as such by the courts. The law has not been widely tested in the context of parks.

Likewise the public trust doctrine has been involved to a limited extent as a tool to limit the effects of external actions on national park lands. The public trust doctrine, originating in Roman and English common law, holds that some resources (navigable waters, harbors etc.) are so valuable to the public that they cannot be affronted or separated from the broad public interest.[20]

The public trust concept has been applied to Historical items, monuments, natural features etc. if they are deamed to be so valuable that they must be held in trust for the public for the future. It is an over-riding common law concept that the courts have used occasionally to limit legislative initiatives and administrative discretion in cases such as *Illinois Central Railroad v. Illinois*.[21] The public trust doctrine has been used by the courts to insure

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20. G.C. Coggins and C.F. Wilkinson, *Federal Public Land and Resources Law* (Mineola, N.Y.: Foundation Press, 1987), p. 303.
21. 146 U.S. 387 (1892).

that parklands and beaches receive a consistent and appropriately high valuation by those in a position to dispose of them or to regulate them. In a sense then, the public trust doctrine, when applied to national park resources, is a separate and sound affirmation of the intention of the NPS Organic Act, which states that parklands are valuable to the public over the span of generations.

Just as with nuisance law, over time the courts have broadened their interpretation of what falls within the public trust. While it seems easy within a utilitarian or anthropocentric view to accept the public trust value of a harbor or a beach, for the courts to reach the same conclusion about a stand of ancient trees or an austere desert landscape requires some evolution of aesthetic and ecological thinking on the part of the judiciary. In the case of the national parks these sensitivities have been little tested beyond the Redwood National Park case; it is difficult to predict how a new body of conservative judges throughout the federal courts will look on the national parks within the common tradition of the public trust doctrine.

Substantive Acts

Many federal acts have been passed to protect or regulate the disposition of specific features or "resources" of the public lands. The Antiquities Act[22], the Endangered Species Act[23], the National Historic Preservation Act[24], and the Clean Air[25] and Water Acts[26] are among the most applicable to the national parks and monuments. The provisions of these acts can protect large areas of land outside national parks from development. Often these acts are brought to bear through the planning and review provisions of the National Environmental Policy Act (NEPA). NEPA is central to insuring that these disparate acts are considered when a major federal action is planned.

The Historic Preservation Act

Provisions of the Historic Preservation Act might be involved in an attempt to protect Anasazi ruins at the Tsankawi section of Bandelier National Monument from a proposed highway that would compromise the setting of a historic site. The Historic Preservation Act calls on

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22. 16 U.S.C. sec. 431-433 (1974).
23. 16 U.S.C. sec. 1531-1543 (1974, Supp. 1985)
24. 16 U.S.C. sec. 470, 1974, Supp. 1985.
25. 42 U.S.C. sec. 7401-7642 (1983, Supp. 1985)
26. 33 U.S.C.A. sections. 1251-1376

federal agencies instigating possibly harmful projects to take steps to minimize the impact of those actions on the registered historic sites and to cooperate with other agencies in planning. In cases involving Anasazi site protection, it has often been argued that aesthetic harm to these sites is the sort of detrimental influence that Congress intended to protect such sites from.[27] But no firm body of precedent on such progressive considerations has been established.

Clean Air Act

The Clean Air Act has strong provisions to protect air quality in national parks. With a few exceptions most national parks (those established before August 1977) have a "Class I" air quality rating, which means that visibility and the clarity of the ambient air must be maintained at a high level. Some national monuments such as Bandelier National Monument have a Class I rating as well. Such a rating under the Clean Air Act regulates air quality deterioration according to specific baseline concentrations.[28] But the Act's language is somewhat vague, requiring only that state officials and the Environmental

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27. Grove Burnette JD Appeal of the OLE powerline FEIS.
28. 42 U.S.C. sec. 7472(a)(4).

Protection Agency make "reasonable progress toward meeting the national goal."[29]

The National Park Service has set up air quality monitoring programs at many parks. In Sequoia and Kings Canyon National Parks in California an extensive air quality monitoring program has been initiated. Associated studies monitor vegetation and water quality changes in high altitude lakes. These studies are designed to monitor the effect that some of the worst air pollution in the nation is having on the fragile world of the giant trees.

At Bandelier, long range visibility monitoring was conducted for a number of years but was discontinued in the early 1980s. Vacuum filter sampling of air pollution continues at Bandelier and at many other parks.

In many parts of the country, the National Park Service air quality monitoring stations provide the only consistent monitoring of air quality. The Reagan administration cut funds for the NPS air quality monitoring programs. This was consistent with their effort to reduce environmental regulations for the private sector. Without baseline data from monitoring programs, however, change over time is difficult to establish in court.

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29. 33 U.S.C.A at 7491(a)(4).

Endangered Species Act

The Endangered Species Act has been used as a adjunct tool for protecting national parks and the lands near them on a number of occasions.[30] The Act requires the US Fish and Wildlife Service to enforce the provisions of the Act when an endangered species may be threatened within a park or near its borders (or on any other body of federal land). The Act requires federal agencies to take affirmative steps to protect a species and its habitat if it is listed as an endangered or threatened species.[31]

The habitat protection provisions of the Endangered Species Act are most important for national park protection. When parks such as Glacier and Yellowstone harbor endangered species such as the grizzly and grey wolf, added awareness to habitat alterations in the whole of the parks and their surrounding lands comes via the documentation and planning provisions of the ESA[32] and NEPA. For example, a proposal to pave the North Fork (Flathead River) Road outside Glacier National Park was quashed when the US Fish and Wildlife Service issued a jeopardy opinion under the Endangered Species Act with reference to the grey wolf and the grizzly

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30. Joseph Sax, R.B. Keiter, in *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 175.
31. 16 U.S.C. sec. 1531-1543.
32. 7 Journal of Energy Law and Policy 62.

bear. This jeopardy opinion amounts to a veto of the proposed action, and indeed the North Fork Road has not been paved.[33] The opinion was based on evidence that the road would increase human activity in prime wolf/grizzly habitat and thus would further endanger these animal populations. In fact, the North Fork Valley is one of the last large wild areas where wolves are found in the lower forty eight states. Wolves survive there only because of the proximity of Canadian wilderness, which harbors a larger wolf population.

The Endangered Species Act is one of the strongest cards in the park protectionist's hand. But it only protects specific lands that have been identified as habitat for an endangered plant or animal species.

Clean Water Act

The Clean Water Act[34] contains some of the clearest and least ambiguous language of all the federal resource protection acts. With regards to national parks and other high value natural areas it establishes "Outstanding National Resource Waters" (ONRWs), which have high priority for water quality maintenance within the provisions of the

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33. Joseph Sax, in *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 193.
34. 33 U.S.C. sec. 1251.

act. In a sense it "zones" some waters as high quality recreation and wildlife waters. ONRWs are protected by the most stringent water quality standards. These standards contain a nondegradation requirement.

Under these provisions, the state where the park lies is required to designate the waters within various use criteria such as fishery waters, aquatic protection, or recreation waters. The EPA approves such uses and requires state implementation of a program aimed at protecting water quality. Baseline data on water quality must be taken and a permit system for all potential degrading influences established by the state. If the state fails to maintain the standard, a federal enforcement procedure takes over.

In terms of western national parks, the CWA has not been utilized to its full potential. The act traditionally targets industrial pollution and has not yet been tested to a great extent in the context of sedimentation and pesticide residues which result from national forest "management" techniques. Non-point source pollution standards, added to the Act in 1983, may provide greater leverage for dealing with these types of pollution.

The huge increase in the amount of clearcutting carried out on the national forests over the last decade has increased the sediment load in many rivers that run through national parks and monuments, damaging fisheries and

degrading aesthetic qualities. But the CWA seems to have been little tested in dealing with these sorts of problems (see chapter on Los Utes timber sale).

The CWA also requires careful monitoring and reporting by the National Park Service. To date the NPS has not proven itself well in such enforcement capacities.[35]

The National Park Protection Act of 1983

In 1983 the U.S. House of Representatives passed H.R. 2379, the "National Park System Protection and Resources Management Act of 1983." Its companion bill in the Senate failed and the bill was never reintroduced. The act represented a recognition by Congress that a system-wide park protection act was needed to strengthen the Organic Act and to give political power to the National Park Service in its interactions with other larger agencies over resource management conflicts.[36] In the end the act was weakened by compromise.

The bill would have required the Secretary of Interior to submit a comprehensive "State of the Parks" report every four years that would have taken into account external threats to the parks. The Secretary then would have been

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35. Joseph Sax, R.B. Keiter et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 195.
36. 132 University of Pennsylvania Law Review 1206 (1984).

required to prioritize the threats nationally and utilize a permitting system to change federal actions on adjacent lands. The bill also would have required managers of adjacent lands, such as USFS lands, to inform the Secretary of any planned activities that would have a "significantly adverse affect" on a park.

H.R. 2379 encountered opposition from those who felt management activities on other lands would be restricted to an unacceptable degree by the park consideration provisions. Career National Park Service views were not represented to Congress, but then-Assistant Secretary of Interior for Parks and Wildlife Bill Horn opposed the bill on the grounds that it was redundant with existing administrative procedures, a point environmentalists strongly disagreed with. At the time, Horn was widely criticized for his efforts to open the national parks and wilderness areas to commercial activities and weaken the position of the NPS relative to the rest of the Interior Department.[37]

The strongest criticism of the bill came from those who felt it would strengthen federal influence over state and local actions. The bill failed to define where "nearby" the park begins or ends, and many western politicians felt NPS influence could spread far from the parks and force federal

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37. Jonathan Lash, Katherine Gillman, and David Sheridan, *A Season of Spoils*, (New York: Pantheon Press, 1984), p. 289.

land use planning on the states.[38] The bill failed to bring into play the concepts of ecosystems, viewsheds, or watersheds, concepts that could have helped critics understand that park protection buffer zones would have some scientifically based and legally challengeable limits.

Ultimately, these concerns caused the bill to be toothless. It only required information gathering and submission of data. It carried no real empowering statutory authority with which the Secretary or the NPS could act to protect parks from external threats. It may only have strengthened a court's sense of Congressional intent with regards to protection of the national parks.

Growing Pressures Near Parks

Politicians established political boundaries around national parks according to human economic interests. As America moves into the 1990s, we find that these boundaries are increasingly inadequate to protect the qualities the parks were established to exemplify. With time these political lines have been strengthened by increasing possessiveness of federal agencies toward their existing holdings and their programs, just at a time when park

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38. The final chapter of this paper will deal with recent attempts to remedy the area of influence question.

protection needs call out for a lessening of political divisiveness among federal agencies and increased cooperation to accomplish regional land use planning goals.

Since a sense of cooperation among federal agencies toward broad goals is absent, those who would protect the parks from increasing pressures on adjacent lands must necessarily turn to the legal system and seek new legislation to mandate cooperation. The legal system presents a scattered body of law and precedent with varying degrees of strength and effectiveness to deal with trans-boundary issues.

The National Park Service has taken little action to assert the needs of the parks in the legal arena.[39] The NPS's low political status among federal agencies and its tendency to shun legal remedies have given great advantage to other agencies when mining, logging, road building or other developments are planned near the parks.[40]

Further the NPS tends to be inward-looking, possibly as a result of the language in its Organic Act and its historically low political status. It tends to its own lands and rarely exerts pressure on other agencies to consider their actions in relation to the welfare of the

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39. William Lockhart, et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 40.
40 William Lockhart, et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p. 40.

parks.[41] Most often the NPS will comment on the EIS of another agency with a letter that carries little more legal weight than those of citizens or environmental groups. Such a timid approach has done little to advance the needs of the parks and has only lessened the status of the NPS.

The current array of laws that can be used to protect the parks are inadequate in the face of today's diverse threats to park values and the political environment. NEPA would seem to force consideration of the relevant statutes when an action is proposed near a park. But NEPA is a procedural act and requires no particular outcome. Without diligent public scrutiny of the EISs NEPA spawns, it is unlikely that other agencies will give much consideration to park values. The NPS has not forcefully asserted the interests of the parks in the NEPA process except when the proposed actions were within the parks themselves.[42] Even in this context, external politics often erode appropriately strong environmental protection measures.

Under the current legal scenario, the national parks and monuments may soon be islands of near-wildness within drastically altered environments. The public will need to exert the political pressure necessary to give the NPS the

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41. Joseph Sax, R.B. Keiter, et al., *Our Common Lands* (Covelo, CA: Island Press, 1988), p.198.
42. U.S. D.I. National Park Service, Yellowstone National Park, *EIS for Removal of Fishing Bridge Development.* (1987).

political power it needs to confront the momentum of development forces. Clearly the NPS itself may only resist such changes, hiding as it does in its early-twentieth century paradigm of self sufficiency and enclosure.

CHAPTER III

AGENCIES IN CONFLICT ON THE PAJARITO PLATEAU

Two often conflicting views of wild land stewardship have played themselves out for decades on the Pajarito Plateau on the edge of the Jemez Mountains in northern New Mexico. Here, as elsewhere, the U.S. Forest Service has practiced a utilitarian, "multiple use" approach to wildland management that emphasizes making timber and other natural resources available to industry while facilitating a modicum of public recreation and wilderness preservation. The National Park Service, at Bandelier National Monument and elsewhere, has for the most part championed the widely held view that the landscape and its cultural artifacts must be preserved and made accessible to the public. In northern New Mexico, Bandelier National Monument has been the focal point of much conflict between these views of land stewardship.

The long-standing discord between the National Park Service and the U.S. Forest Service nationwide is an institutionalized manifestation of a disagreement over the

role of humans in natural systems that goes back to the formative years of western civilization.[1] In the United States Gifford Pinchot, the founder of the Forest Service and John Muir, the philosophical mentor of the modern preservation movement, brought this long standing difference of environmental ethics to bear on the western landscape.

Though the philosophical underpinnings of the two agencies are at odds in many ways, the conflict and competition between the agencies takes on the familiar form of a conflict between two political entities, struggling for power and funding on the same turf. This conflict seems based in human nature, in our tendency to build empires and to work to have our own notions prevail over differing views. The conflict between the two agencies is not based in any inherent incompatibility of the missions of the two agencies.

Conflict on the Pajarito Plateau

The demarcation of Bandelier National Monument in the early part of this century followed a long conflict between

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1. Donald Worster, *Nature's Economy, A History of Ecological Ideas*. (London, England: Cambridge University Press, 1977), p. 95.

local interests, the Forest Service, and the National Park Service and its precursors.[2]

Between 1890 and 1985 the idea of establishing a national park on the Pajarito Plateau and in the Jemez Mountains was proposed and reproposed with great rancor in both New Mexico and Washington D.C.[3] Interest in the area stems from its unusual landforms and from the fact that the Jemez Mountains and the Pajarito Plateau contain the highest concentration of archaeological sites of any area in the United States, more than 27,000.[4] According to recent but yet incomplete archaeological surveys, Bandelier National Monument is thought to contain more than 7,000 archaeological sites dating from 1100 to 1600 b.p.[5]

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2. The National Park Service itself was not established as an agency until 1916 though many national parks and monuments existed by that time. Early park protection in Yellowstone National Park and General Grant National Park was the charge of the War Department whose soldiers guarded these wonders from prospectors and timber thiefs. Many of the traditions of the National Park Service, from the uniforms to the evening campfire programs, are remnants of the days of War Department involvement in park protection.
3. Hal Rothman, *Bandelier National Monument, An Administrative History*. (Santa Fe, New Mexico: Southwestern Cultural Resources Center, 1988), Professional Paper No. 14, pp. 1-18.
4. Randal O'Toole, *Reforming the Forest Service*. (Covelo, CA: Island Press), 1987. p. 1.
5. Various newspaper accounts of the Powers survey of Bandelier between 1987 and 1989. The survey which was intended to inventory the entire monument ceased in 1989 due to a shortfall in NPS funding. David Stuart of the University of New Mexico has also been a principal researcher in the Bandelier Survey along with Dr. Tim

The early proposals for a "Cliff Cities National Park" focused on the ruins of the early Pueblo Culture[6] in the Pajarito Plateau region as well as the spectacular canyons and mesas. A 1900 proposal would have incorporated an area of the Plateau from the present Puye Cliffs area, more than 20 miles north of Frejoles Canyon, to the current southern boundary of the park. Various park proposals also incorporated the Valle Grande Caldera, west of Bandelier, in the national park proposal. The idea of including the caldera shifted the focus of the monument from pure archaeological preservation, to geology and ecology. The caldera proposal caused some to question the mission of the park and to question weather the Jemez landscape without the arcaeological features was worthy of the national park system.[7]

The U.S. Forest Service managed most of the Jemez Mountains outside of two Spanish land grants at the time the

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Kohlier of Washington State University who has excavated ruins in Bandelier.

6. The paleo-Indians who inhabited the Jemez region are though to be remnants of the Anasazi population that inhabited the San Juan Basin to the northwest of the Jemez. When conditions in the Chaco Canyon area became unlivable, these people retreated to the Colorado mountains and southeast to the Rio Grande Valley. The present day Cochiti People are thought to be the decendants of the clans who inhabited the Bandelier canyons in historic times.

7. Hal Rothman, "Conflict on the Pajarito: Frank Pinkly, the Forest Service, and the Bandelier Controversy, 1925-1932," *Journal of Forest History*, (April 1985): p. 68.

early national park wrangling was going on. The Forest Service resisted each successive proposal for a national park in the area, citing the stands of valuable ponderosa pine which grow in the Bandelier area as valuable resources which should not be denied to local economies. When Bandelier was established as a national monument according to the Antiquities Act of 1906,[8] the Forest Service had enough political leverage to maintain its management of the monument despite the fact that the National Park Service (NPS) had just been created and other archaeological parks and monuments in the southwest were being managed by the NPS. Beginning in 1916 the Forest Service placed a ranger in Frejoles Canyon and attempted to manage the area but its inability to provide interpretation and visitor services commensurate with those at other cultural monuments such as

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8. 16 U.S.C. sections 431-433. This act provided that the President could establish national monuments by proclamation and without consent of Congress as long as they were "confined to the smallest area compatible with the proper care and management of the objects to be protected." In the case of Bandelier, the boundaries were more extensive than the known major ruin areas alone would have justified. By contrast, during the final days of the Carter administration, President Carter used the Antiquities Act to set aside vast tracts of Alaskan wildland when it was clear an administration hostile to preservation was soon to take power and in light of Congress' failure to adequately protect the core national interest lands in Alaska.

Mesa Verde in southwestern Colorado led to the transfer of the land to the NPS in 1932.[9]

The Forest Service resisted the creation of a national park or monument on the Pajarito Plateau and resists expansion of Bandelier to this day. The Forest Service ceded 3,626 acres to the National Park Service in 1916, but Washington negotiations among the upper ranks of the agencies eventually led to a 26,026 acre monument. Even so, it wasn't until the early 1960s that the centrally important upper reaches of Frejoles Canyon were transferred to the NPS over the strenuous objections of the USFS, which wanted the rich forests of the tract for its sawtimber. This tract was owned by the General Services Administration (GSA), which was administering much of the land around the Los Alamos Scientific Laboratory after the laboratory was formed in the early 1940s. The USFS also sought the Upper (Frejoles) Crossing lands in order to further thwart renewed interest in a large national park that would encompass the Valle Grande.[10] The Upper Crossing tract provided a bridge between the main monument and the Valle Grande area.

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9. Hal Rothman. *Bandelier National Monument, An Administrative History.* (Santa Fe, New Mexico: Southwestern Cultural Resources Center, 1988), Professional Paper No. 14, p. 36.
10. Ibid., p.54.

Bandelier added its most recent land tract in 1983 when it purchased the upper reaches of Frejoles Canyon from the Baca Land and Cattle Company, which owns the old Baca Land Grant encompassing the Valle Grande. Apparently the Forest Service was not a party to any aspect of this transaction since, it was accomplished specifically to protect the watershed of Frejoles Canyon. Later efforts to add a small private piece of land adjacent to the new Baca tract (called the "New Acquisition") across the state highway from Bandelier has again brought the NPS into acquisition competition with the USFS, which seems better poised to take control of the land.[11]

Logging Near Bandelier

A few timber sales occurred around Bandelier before the late 1970s. Trees were cut selectively on much of the Forest Service land surrounding the Monument. The land known as the Ramon Vigil Grant north of Bandelier was logged

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11. The old Sawyer's Hill ski area which later became a Girl Scout Camp was sold to a housing development group in 1980 and then resold after their subdivision plans were thwarted by Los Alamos County voters in 1981. The tract was sold to another Los Alamos businessman who sought a land exchange with the Forest Service. To date he has neither built on the land or successfully exchanged it for another USFS tract.

intensively around the turn of the century. More logging occurred on high altitude lands west of Bandelier in the 1940s.[12] Except for some extensive logging operations on the Sierra de los Valles surrounding the Valle Grande in the 1960s, none of these historic logging operations were clearcuts.[13]

In general the Forest Service carried out a low profile logging program near Bandelier until the last decade. As detailed in the last chapter, beginning in 1980 the Forest Service nationally was compelled by Congress and the Reagan administration to increase drastically the amount of logging on national forests across the country. During this time the amount of logging in Bandelier watersheds has increased noticeably.

According to documents in the National Park Service files at Bandelier, only one major conflict between the NPS and the USFS occurred before 1980 over the issue of logging.

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12. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley 1989). p. 157.
13. In the mixed conifer forests of the Southwest, only a few trees in a given virgin stand are worth cutting since the range of tree sizes varies greatly. These stands, particularly in the ponderosa pine areas are "uneven aged stands." Thus select cutting was the norm in the past. In 1989 the Santa Fe National Forest conducted its first clearcut on a "demonstration" basis some 20 miles from Bandelier. This logging operation, known as the Barley Sale outraged citizens and has caused the USFS considerable political problems in New Mexico.

In 1977, after the catastrophic La Mesa fire,[14] the Forest Service conducted a "salvage" logging operation to remove the charred snags on Sawyer's Mesa between Frejoles and Alamo Canyons (see map). The La Mesa fire had charred most of the forest on this mesa, and the logging removed most of the snags from the mesa, resulting in a clearcut effect.

The Sawyer's Mesa logging operation damaged the sense of wildness that had pervaded the area when viewed from within the monument and from the state highway that cuts across the top of Frejoles Canyon. Sawyer's Mesa forms much of the south side of the Frejoles Canyon watershed which the NPS had just spent $1,350,000 to obtain from the Baca Land and Cattle Company. Yet the USFS conducted the logging operation without contacting the staff at Bandelier.

In December 1977, Bandelier Superintendent John Hunter contacted NPS Southwestern Regional Director John Cook to complain about the salvage sale on Sawyer's Mesa.

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14. The 15,000 acre La Mesa fire started on Forest Service land near upper Alamo Canyon and eventually engulfed more than one third of Bandelier. La Mesa was a crown fire which started after a long drought. It was virtually uncontrollable and converted almost all of the mid-elevation ponderosa pine forests of Bandelier into grasslands.

> Logging is occurring right up to our boundary and slash is being pushed up to and on our boundary fence. This area is part of the immediate watershed of both Alamo and Frijoles Canyons. The Forest Service has not counseled with us on this matter so we do not know the extent of the sale. We do know that there was some effort by the Wilderness Society to have this area added to roadless designation and added to the Bandelier Wilderness. This entire action may be an effort by the Forest to remove it permanently from future consideration.[15]

Hunter's statement that the USFS was working to eliminate roadless lands near Bandelier from that legal category echoed similar statements of environmentalists who had fought hard to have the roadless lands around Bandelier included in the RARE I and II reviews.[16] Environmentalists wanted these roadless lands preserved as extensions of the Bandelier Wilderness which was established within the boundaries of Bandelier in 1976.[17] The Forest Service

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15. Memo from Superintendent Hunter to SWR Director John Cook, December 14, 1979 from Bandelier historic files.
16. The RARE (Roadless Area Review and Evaluation) was the result of a 1981 bill sponsored by then-Senator S.I. Hayakawa of California which sought to end the piecemeal designation of wild areas to the National Wilderness Preserve System as mandated by the Wilderness Act of 1964. The RARE bill was supported by national cattle growers, logging, and mining organizations and forced congress, the public and the Forest Service to designate areas of roadless lands either as released lands, further study lands or wilderness lands. Though some of the land around Bandelier was placed in the further study category, only the desert lands in the present Dome Wilderness Area were ultimately preserved.
17. The Wilderness Act (16 U.S.C.A sec. 1131-1136). established a category of high protection for pristine lands without setting up a specific agency to manage wilderness lands. Wilderness is managed by whatever agency managed the lands before the wilderness designation was approved by

opposed designation of the lands around Bandelier as wilderness, but did allow a desert tract to become the present Dome Wilderness Area. In 1979 a large buffer of wild land existed around Bandelier, but within the next decade the area was roaded and logged.

In its effort to log some of the most beautiful, remote and wild lands north of Bandelier, the Forest Service flexed its political muscle in order to gain access to roadless lands near the New Acquisition. The political battle over the Valle and Water Timber Sales provided a vivid characterization of the political hierarchy that exists between the USFS and the NPS and which clearly puts the NPS at the political disadvantage.

In 1977 the Espanola District of the Santa Fe National Forest requested that Bandelier allow the Forest Service to build a road across Bandelier lands in the northern upper edge of the Frejoles watershed in order to gain access to roadless lands. As noted above, Superintendent Hunter was aware of the Forest Service's interest in ringing the Monument with timber sales, possibly to prevent further wilderness designation or monument expansion. The road to

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Congress. In the case of Bandelier, environmentalists sought to have the Bandelier Wilderness straddle the NPS-USFS boundary. Today, the wilderness boundary follows the NPS boundary except where the Forest Service Dome Wilderness abuts the park.

access the proposed timber sales would only cross Bandelier land for less than a mile.

In April 1979 Superintendent Hunter denied the USFS request for the easement "on the basis of agency policy and Congressional intent."[18] Hunter was referring to the basic philosophical underpinnings of the National Park system, which prohibit use of NPS lands for natural resource exploitation. Hunter justified his decision by stating that the road would be used to damage lands on the Bandelier boundary and that logging trucks seen by the public coming off of NPS lands would confuse the public about the mission of the NPS.

Following Hunter's refusal of the USFS request for the road easement, the Espanola District brought the matter to the attention of the Regional Forester for Region 3. Deputy Regional Forester James Overby then wrote to NPS Regional Directory Robert Kerr requesting a meeting to "consider the matter of the access road." Overby stated that the 1.1 million board feet timber sale was necessary to "manage this part of the Forest for fire protection, fuel reduction, wildlife improvement and other administrative uses."[19] A consensus that logging reduces wildlife diversity and

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18. See footnote 14 supra.
19. Letter of James Overby to Robert Kerr, undated, from Bandelier historical files.

increases fire hazards in forests like those in the Jemez was substantially ignored by Mr. Overby's letter.[20]

Following the Deputy Regional Forester's letter, the NPS Regional Director offered to meet with the USFS to grant the access requested. According to conversations I had with NPS staff, the atmosphere of the negotiations was less than friendly. Superintendent Hunter expended substantial political capital by refusing the request. In the end, the NPS Regional Office ceded to the request by the USFS regional forester, probably in violation of both the spirit and the letter of the NPS Organic Act.[21]

The Valle Timber Sale was completed in 1981, substantially destroying a large area of old growth forest which was rich in wilderness qualities. The logging compromised environmental qualities on yet another area of the Bandelier landscape.

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20. Gordon Robinson, *The Forest and the Trees: A Guide to Excellent Forestry* (Washington D.C.: Island Press,1988).
21. The question of commercial transport through national park lands has been tested recently in the Yellowstone National Park. The Forest Service and logging companies wished to truck timber salvaged after the great Yellowstone fires of 1988 through Yellowstone Park. The Director of the National Park Service denied the loggers request to use Yellowstone highways on the basis of the NPS Organic Act and the Yellowstone enabling legislation.

The Santa Fe Forest Plan

The Santa Fe Forest Plan, like forest plans for national forests nationwide, was written to fulfill the terms of the National Forest Management Act (NFMA).[22] The NFMA amended the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974. The forest planning process set up by NFMA was intended to allow for an orderly allocation of resources over time, with opportunity for public comment and customizing of planning to local forest and economic conditions.

But on the Santa Fe as elsewhere, the planning process has caused controversy. The first draft forest plan, issued in the fall of 1987, was appealed by environmentalists and withdrawn by the Forest Service after Randal O'Toole of Cascade Holistic Economic Consultants found serious errors in the economic and ecological assumptions of its FORPLAN computer model. The second version of the plan also was appealed but environmentalists who felt the plan called for too much logging. Environmentalists, divided, ultimately dropped their appeal and the plan has been "implemented."[23]

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22. 16 U.S.C.A. sec. 1600-14.
23. Environmentalists dealing with the Forest Plan were divided between those who thought the 2nd Santa Fe Forest Plan was credible and provided a basis for negotiation and those who felt it was an unworkable and hopelessly flawed

Forest Planning has its roots in events surrounding a successful 1975 court challenge of Forest Service clearcutting practices on the Monongahela National Forest.[24] The environmentalist challenge in the 4th Federal Circuit Court forced Congress to recognize that the 1897 Organic Act did not allow the level of timber harvesting that the Forest Service had been practicing since its placement in the Department of Agriculture under Gifford Pinchot in 1906.[25] In response to this ruling, which would have shut down most of the logging on the national forests, Congress passed the National Forest Management Act of 1976, which established the Forest Planning process on a repeating 10 year cycle. The act allows the Forest Service to log the national

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document. Ted Davis of *Save the Jemez* abandon efforts to appeal the plan or to negotiate with the Forest Service on its terms and stated that "the plan is so outrageous, they [the Forest Service] could never implement it anyway due to budget constraints." On the other side of the issue was the *Rio Grande Sierra Club* which negotiated with the Forest Service. Since the *Sierra Club* at that time was solely interested in the Sangre de Cristo Mountains on the eastern section of the Santa Fe Forest, they seemed pleased since the FS planned little logging there. The brunt of the Forest Service logging program has always been in the Jemez Mountains. By 1990 the *Sierra Club* has turned its focus to the Jemez and the Forest Service is encountering serious resistance to its logging programs as a result.

24. West Virginia Division of the Izaak Walton League of America Inc. v. Butz 522 F.2d 945. 1975 (U.S.C.A. 4th Circuit).

25. Alan G. McQuillan, "Is National Forest Planning Incompatible with a Land Ethic?" *Western Wildlands* 15 (Winter 1990): 7.

forests but Congress failed to clarify whether clearcutting is legal. The agency operates under the assumption today that clearcutting is legal under the law, but many scientists and environmentalists deny that Congress meant to allow such single use management.

The NFMA did not resolve the broader long-standing dispute between the preservationist ethic and the utilitarian forest use ethic. Rather than provide a clear, binding mandate for the Forest Service, the NFMA simply granted the Forest Service discretion on the matter of logging method with some vague statements of intent as guidance. Congress did mandate that the Forest Service engage in a process of "forest planning." Congress may have hoped that planning would allocate forest area fairly among various priorities according to an intricate process of public comment, mapping, zoning, and priority mixing.

Unfortunately, the forest planning process was not bestowed on an impartial agency. By 1976, the Forest Service had been operating under those who believed in the commodity-centered Pinchot ethic for seventy years. The Forest Service was staffed primarily by graduates of forestry schools where industrial forestry practices and business were taught in leu of land ethics or scientific ecology. Further, the agency had been steadily increasing

its timber cutting at the direction of Congressmen on relevant appropriations committees. Congress had passed the ambiguous Multiple Use, Sustained Yield Act of 1969 in an earlier effort to calm the preservationist - timber user debate.[26]

In passing the National Forest Management Act, Congress seemed to overlook the fact that with intensive logging plans in the first ten year cycle of forest planning, future forest plans would be defined by the "irreversible allocation of resources" made in that first cycle. In the case of roadless lands "released" under provisions of the RARE II, the wilderness qualities of most of those lands have been destroyed by logging roads and timber cutting despite Congressional direction to maintain most roadless lands into the second planning cycle.

Given the predisposition of the Forest Service to cut trees and the ambiguity of Congress' mandate to the agency to preserve roadless lands on the national forests, the Forest Planning process worked to provide yet another justification for intensive logging of the national forests. Though Congress may have intended to achieve a balance between logging and preservation through the public process, all of the Forest Plans that have been issued as of February

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26. Ibid. p. 8.

1990 have been appealed by dissatisfied public or industry groups, reflecting the failure of the Forest Service to represent these conflicting interests in a balanced fashion. Most of the appeals have come from environmentalists who have complained that the Forest Plans are heavily biased in favor of logging, and do little to protect roadless lands, recreation opportunities or wildlife habitat.[27]

The Santa Fe National Forest Plan provided a battleground for locals with conflicting visions for the national forest lands around Bandelier National Monument. By 1977 divisions among local environmentalists had allowed the Forest Service to place most of Bandelier's boundary country into the logging land base. Though many wanted to see the roadless lands around St. Peters Dome preserved as wilderness, only the desert lands that are now the tiny "Dome Wilderness Area" were protected. As noted above, the remaining RARE II lands around Bandelier have since been heavily logged despite provisions of the Forest Plan which categorized these lands as "wildlife and cultural resource protection" areas.

Environmentalists have appealed all of the Forest Plans issued nationally to date, charging that these plans fail to

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27. Ann A. Loose, "Forest Plan Appeal Decisions" Guides to the Future of the U.S. Forest Service" 15 *Western Wildlands* 4 (Winter 1990): 2.

provide protection for natural amenities such as wildlife, watersheds, or archaeological sites.[28] The emphasis on logging in the Jemez Mountains in the Santa Fe Forest Plan left the public to realize that only one relatively large (Guaje Canyon) roadless area would remaining roadless and unlogged after 15 years, while all the remaining national forest land with anything other than pinon and juniper would be logged to some extent. The Forest Plan calls for 97 different timber sales ranging from 2 to 10 mmbf of volume each.[29] Roads in the Jemez, many associated with timber sales have increased in density 5 to 16 fold since 1935.*30*

According to the Santa Fe Forest Plan, the lands surrounding Bandelier have been classified into three categories according to what resources will be emphasized in managing those lands. Except for the area in the Dome Wilderness Area, all of the land in the higher elevations around Bandelier has been designated for logging. The majority of the Forest Service land that includes the upper reaches of Bandelier's canyons has been classified for "historic and prehistoric site retention." The plan states

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28. Andy Stahl, "The Broken Promises of Forest Planning" *Western Wildlands* 15 (Winter 1990): 28.
29. *Santa Fe Forest Plan*, p. 11.
30. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley 1989). p. 236.

that "grazing and timber harvesting will occur where compatible with the primary management emphasis of the area."[31] Yet the management emphasis in this area, aside from archaeological preservation, is wildlife habitat improvement which, in Forest Service parlance, usually involves some degree of timber harvest. In fact this area has been set aside for heavy removal of larger trees and intensive roading. Archaeological site protection has proven to be a low priority for this area, contrary to the forest plan.[32]

The other relevant Forest Plan land management category for lands bordering Bandelier's northern boundary emphasizes transportation and scenery retention. The Forest Service has allowed road building and select cutting of most larger trees in this area. In both of these areas, fuel wood gathering after logging has occurred, and provisions of the Forest Plan stating that snags and large down wood would be "retained" for wildlife have not been enforced.[33]

In the Jemez, the Forest Plan has seemed to have little influence on Forest Service activities. In the Caja del Rio (the area across the Rio Grande from Bandelier) the Forest

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31. Santa Fe Forest Plan, p. 165.
32. Personal communication with Roger Peterson of the *New Mexico Natural History Association*, Craig Allen of Bandelier National Monument, and Sam Hitt of *Forest Guardians*.
33. Personal communication with Craig Allen, BNM staff.

Service has continued to contemplate activities such as oil and gas leasing despite stipulations in the Forest Plan that would seem to preclude activities which would require tree cutting and road building. On the west side of the Jemez near Virgin Canyon, the Forest Service planned intensive logging in an area rich with large historic Pueblo ruins despite forest plan stipulations that these features would be preserved.

Likewise, on the Bandelier borders, logging has taken precedence over other possible land uses. Partly, this is because the Forest Service sees logging as a method of attaining a variety of "multiple use" goals. Logging is seen as a way of managing land for "wildlife" and as a way to reduce fire hazard and to increase recreation opportunities.[34] Hence, when the forest plan emphasizes recreation, wildlife, or recreation, logging is not only a way to attain these goals; it can happen in spite of these goals. Naturally only large game species are considered in management planning for many "wildlife" areas whereas populations of birds, salamanders, and mountain lions may be damaged by the logging. Likewise, recreation with motorcycles and jeeps is facilitated by logging whereas

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34. Logging promotes the sort of forage that deer need and deer are a popular game animal. Logging damages habitat for a great number of other wildlife species including elk.

"dispersed" non-motorized recreation is precluded. The forest plan also sets a few areas aside for non-motorized recreation, such as an area in the Sierra de los Valles just north of Bandelier's Cerro Grande.

Archaeological resources have been hit particularly hard by Forest Service activities in the Jemez. In order to preserve such features, great care must be taken. The Forest Service practices industrial forestry, which involves the use of large machinery. The sort of care that would be warranted by the archaeological sites in the Jemez or the non-game flora and fauna is not possible with conventional industrial forestry techniques.[35] Yet to date Forest Service officials on the Jemez District and in the Supervisors Office in Santa Fe have not considered using other that the roughest forms of forestry techniques involving heavy machinery. As a result, the Forest Service has been in a near-constant state of conflict both in and out of court concerning the Jemez Mountains.[36]

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35. *Save the Jemez* discovered that the Forest Service had scarified, or plowed, large areas of the western Jemez in an effort to prepare the area for tree crop planting after clearcutting. In the process of scarification, thousands of archeaological features were destoryed. Reforestation efforts in the area failed.

36. *Save the Jemez* filed suit against the Santa Fe National Forest in 1983 when the organization discovered that the Forest Service and its contractors had been routinely damaging archaeological sites in the Jemez. The suit was settled out of court with the Forest Service agreeing to

Naturally the lands surrounding Bandelier have nearly as great a concentration of archaeological resources as those protected by the national monument. As studies have progressed, the inadequacy of Bandelier's boundaries for protecting archaeological resources has become apparent.[37] Yet the Forest Plan has done little to protect the rich archaeological sites around Bandelier and elsewhere in the Jemez. To its credit the Forest Service did recognize the existence of these sites by allocating lands as cultural resource protection areas. But the true emphasis in those areas so far has been intensive logging.

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take extra precautions to protect these sites throughout Region 3. Yet these precautions often were problematical in themselves. On the west side of the Jemez, closer to Jemez and Zia Pueblos, small one room ruins called "field houses" are common. The Forest Service makes large paint marks on trees around these to warn loggers away. Yet these marks have attracted pothunters who plunder the sites, destroying their value for science. The systematic penetrating of the Jemez by roads has rendered its archaeological resources vulnerable to plunder and outright destruction from the mechanical activities of tree cutting. Many of the most valuable archaeological resources are the "lithic scatters" which consist of flint knapping debris and broken pots. These are routinely destroyed by FS activities. The terms of the Save the Jemez lawsuit concerning cultural resources have expired as of late 1989

37. Several archaeological surveys of Bandelier were in the late 1980s by Dr. Tim Kohler, and Dr. Dave Stewart among others. These studies revealed a higher number of prehistoric cultural sites than had been expected by previous researchers.

Beyond Forest Planning

Recently the whole Forest Planning process seems to have taken on a pallor of near irrelevance to Forest Service/environmentalist politics. Though whole legions of bureaucrats have been hired to maintain the forest planning process, the actual forest plans seem to have become "cookie cutter" copies of each other, rarely reflecting the character of the local land and resources.[38] In the Jemez and elsewhere, environmentalists have returned to challenging individual timber sales through administrative appeals and court challenges (where they are allowed) just as they were before the Forest Planning process was enacted. If anything, conflict between the Forest Service, environmentalists, and others interested in the forest has increased since the Santa Fe Forest Plan was enacted. The Forest Service has sought public comment, taken a subset of that comment into account, published its plans, and legitimized existing land use biases with the planning process.

Many critics of forest planning focus on the basic assumptions that go into the statistical FORPLAN computer

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38. Andy Stahl, "The Broken Promises of Forest Planning" *Western Wildlands* 15 (Winter 1990): 30.

program which is "run" for each forest to produce the maximum present net value for that forest while taking into account various non commodity resources. Naturally such a computer program embodies a variety of implicit human values. Few disagree that the Forest Service's values, before, during, and after the era of forest planning, are skewed heavily in favor of logging and other commodity development.[39]

It seems reasonable to place an economic value on a ponderosa pine tree standing on a far ridge of the Jemez Mountains. But to place an economic value on scenery, on non-game wildlife species, clean air or water, is problematical and has presented legal scholars and economists with a protracted problem in fitting non-commodity values into wild land management planning.[40] But given that the FORPLAN model of a forest is based primarily on an economic model of the forest, it is difficult to place

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39. Alan G. McQuillan, "Is National Forest Planning Incompatible with a Land Ethic?" *Western Wildlands* 15 (Winter 1990): 9.

40. The question of valuation of non commodity resources has recently been raised in the context of the Exxon Valdez oil spill in Prince William Sound, Alaska. Exxon had argued that its liability for wildlife, for example, was limited to the value of the pelt of dead animals, on the open market. Environmentalists countered that wildlife fits into an intricate ecology which is vastly valuable for sustaining environmental values and in its own right.

a fair value on resources outside those that are *valuable* on an existing commodity market.

According to Randal O'Toole, forest planners routinely conclude what the desired level of "outputs" from a forest are and assign dollar values to commodities such as timber in order to arrive at a FORPLAN run that will produce the desired output of timber *before* running FORPLAN.[41] Thus timber cut levels are chosen first and the rest of the forest planning model is shaped to justify these. O'Toole charges that the first Santa Fe plan valued timber at twice the price that it was actually bringing at mills in Espanola and Bernalillo. He also charged that on the Santa Fe as elsewhere, foresters place long-term value on forest roads for amenities such as recreation and fire protection, which are exaggerated relative to their true values for those purposes.[42] In fact these roads and timber cuts often

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41. Randal O'Toole "Review of the Santa Fe Forest Plan and Final EIS." Cascade Holistic Economic Consultants, Eugene, Oregon (July 1987). p. 1

42. The Santa Fe NF spends about $500,000 per year of Congressional appropriations on forest roads and about $700,000 per year administering timber sales. As a result timber on the Santa Fe is sold at a net loss to the taxpayer since in 1987 terms, timber in northern New Mexico was selling for $50 per thousand board feet while the Forest Service was receiving only $23 per thousand board feet after deducting the purchaser road credits. The Forest Service also amortizes the cost of roads over many decades or centuries,well beyond the likily useful life of the roads, in order to justify their high cost.

degrade other resources, especially when an excess of roads exists on a forest. Forest roads are routinely paid for with "purchaser credits," which allow the logging contractor to deduct his cost of building a section of road from his bid price for the timber. The taxpayer pays for the roads and provides a subsidy for the contractor and pays, in essence, to have the environment of the national forest degraded.

Aside from these economic and ethical arguments against the forest planning process as it is practiced on the Santa Fe and elsewhere, strong arguments can be made that the planning process, dictated from Washington D.C., is insensitive to the unique qualities of each national forest or district. Many critics of the Forest Service have long decried the end of the days when a forester would know his district and be ready to make choices about that land on the basis of intimate knowledge of its landscape. Today, foresters are compelled by high timber cutting targets dictated by Congress and the upper echelons of the Forest Service to cut anywhere their computer models say a volume of timber can be produced.[43]

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43. David Clary. *Timber and the Forest Service* (University Press of Kansas, 1986), Lawrence. p.171.

As Professor Alan McQuillan of the University of Montana School of Forestry said: "Given a certain piece of land, foresters can calculate the sustainable timber harvest thereon. However, the question about which lands are suitable for timber production is not one that the [forestry] profession is well prepared to answer."[44]

It is difficult to assign hard economic values to non-commodity forest resources. But the modern Forest Service, with its industrial/business bias, is apparently unable to effectively manage specific national forest areas for values other than timber if the timber is needed to meet an assigned timber cut quota. Thus, it is not surprising that lands with extremely high values for scientific, wildlife, water production, or aesthetics are routinely logged in a fashion that compromises these other values, often on a permanent basis. When these factors are coupled with the Forest Service's inability, or refusal due to institutional rivalry, to acknowledge its shared public trust responsibility to help protect adjacent national park or monument lands, we end up with logging on lands where

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44. Alan G. McQuillan, "Is National Forest Planning Incompatible with a Land Ethic?" 15 *Western Wildlands* 4 (Winter 1990): 9. (This statement speaks to the nature of the forestry profession and forestry school curriculum and ultimately to the perspective from which our national forests are managed.)

logging should never occur, such as the lands within the watersheds of Bandelier's major canyon systems.

Yet the designation of national forest land near Bandelier as logging land, albeit with emphasis on cultural resources and recreation, survived public and National Park Service scrutiny in the forest planning process. Now that the first cycle of the forest planning process has past on the Santa Fe, the agency is relying on decade old Environmental Assessments to justify logging sales on the Bandelier boundaries. The forest plan's emphasis on cultural resources for much of this area would seem to indicate that logging plans need to be updated to comply with the forest plan emphasis.

An administrative challenge to the Flathead and Beaverhead National Forest Plans sheds light on the Forest Service's legal rational for placing minimal emphasis on the Forest Plan EISs, and therefore, minimal emphasis on the commitments made in the Forest Planning process.

When challenged administratively about commitments of resources outlined in various forest plans, the Chief of the Forest Service ruled[45] that the EISs for those forest plans were adequate since the plans themselves do not amount to an

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45. Appeal decision on the Flathead and the Beaverhead Forest Plans by the Forest Service Chief Dale Robertson.

"irreversible and irretrievable commitment of resources" but rather are an outline of possible future actions. The Chief stated that only the site specific environmental assessment for individual timber sales or groups of timber sales are binding under NEPA.[46]

In essence, the Chief's ruling on the Flathead Forest Plan appeal was an admission that forest planning is an abstraction relative to resource management exercises such as timber sales and road building. The Chief's ruling stated that the site specific analysis (by timber sale) matters more in a binding legal sense (NEPA) than the environmental impact statement that accompanies each forest plan.[47] The Chief's ruling threw the ball game between environmentalists, timber companies, and the Forest Service back to the site specific level[48] where it was before the process of forest planning began.[49]

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46. Ann A. Loose, "Forest Plan Appeal Decisions" Guides to the Future of the U.S. Forest Service" *Western Wildlands* 15 (Winter 1990):3.
47. As environmentalists found in the Los Utes timber sale case, neither an EA or the Forest Plan are binding documents in the sense that violations of those documents are punishable in any sense.
48. The recent controversy regarding the northern spotted owl in the Pacific Northwest has centered entirely on the level of timber sale challenges within spotted owl habitat areas. The forest plans are rarely if ever mentioned in the spotted owl debate.
49. Andy Stahl, "The Broken Promises of Forest Planning" *Western Wildlands* 15 (Winter 1990): 30.

Conclusions

Remarkably, the forest planning process has done very little to protect the scenic values of Bandelier, its migrating wildlife, or water and air quality. One has the sense that the Santa Fe National Forest designed its forest plan with no regard for the values the Forest Service and the NPS are charged with protecting at Bandelier.

Earlier interactions between Bandelier officials and the Forest Service have shown a disappointing appreciation on the part of the Forest Service for the internationally important resources of Bandelier National Monument. From the salvage logging on Sawyer's Mesa in 1977, which permanently compromised the wildland integrity and scenic quality of the upper reaches of Bandelier, to the early efforts of the Forest Service to prevent the National Park Service from obtaining lands important to its ecological integrity, we have seen a pattern of rivalry and competition between the agencies more appropriate to fraternity houses than federal agencies.

More recently this rivalry has intensified in the Jemez and elsewhere as the Forest Service has come under intensifying criticism for its land management priorities

and its emphasis on timber cutting at the expense of other resources. Many people consider this grossly imbalanced management of resources not only unethical, but illegal as well.[50]

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50. "Forest Service Edges Toward Change," *High Country News*, 12 February, 1990, p. 3.

CHAPTER IV

EXTERNAL THREATS TO BANDELIER

Many writers who have dealt with the problem of external threats to the national parks refer to the 1980 *State of the Parks Report*[1] as a turning point in the history of the parks. The report provides a park-by-park account of the problems facing the national park system, most arising from incompatible uses of nearby lands:

> Many previously pristine areas today have become surrounded by and exposed to an every growing array of incompatible and threatening activities on adjacent lands...ranging from trespassing livestock which trample vegetation to acid rain from remote industrial facilities which causes severe damage to park terrestrial and aquatic systems and historic structures.[2]

Bandelier National Monument provides an example in microcosm of this national problem. Bandelier is surrounded by lands administered by the U.S. Forest Service, the U.S. Department of Energy, and private land owners, as well as by lands that have fallen into the de facto jurisdiction of the

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1. U.S.D.I. National Park Service, Office of Science and Technology, *State of the Parks 1980: A Report to Congress.* (1980). p.40.
2. Ibid., p. 34.

U.S. Army Corps of Engineers. Each of these types of land control has presented different challenges and problems to the park over the decades. Each neighbor has posed problems for the monument over the decades since the monument was first designated in 1916.

Like many of the parks and monuments in the national system, Bandelier was surrounded by essentially wild land when it was established. Over the years increasing demands and interests have been placed on the surrounding lands and conflicts between park advocates and its neighbors have sharpened.

Bandelier's founders, aware of the rich archaeological resources of the Pajarito Plateau and Jemez Mountains, worked in 1899 to establish a 200,000 acre national park in the area. By the end of the nineteenth century, the concept of "national monuments" had not been formalized and southwestern archaeologists interested in preserving the ruins on the Pajarito Plateau saw a national park as the only option for adequate protection since the Forest Service had proved itself, in their minds, unequal to the task of preservation and interpretation.[3] The Forest Service had

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3. Hal Rothman, *Bandelier National Monument, An Administrative History*. (Santa Fe, New Mexico:Southwest Cultural Resources Center, 1989), Professional Paper No. 14, Southwestern Region, National Park Service. p. 135.

been managing the area until the National Park Service took over what is today Bandelier in 1932 and was reluctant to see its conversion to a national park.[4] A great debate over its size ensued locally among ranchers and homesteaders and among archaeologists in the Southwest.

What is today Bandelier NM was proposed to be just a section of a larger national park on several occasions over the last century. At the turn of the century a full "Cliff Cities National Park" was proposed for most of the Pajarito Plateau. National parks were understood to be large monumental landscapes and it was inconceivable to the park's early proponents that Bandelier could become a small "monument" such as exists today.[5] The archaeologicl features that attracted their preservationist interest were set in a dramatic landscape, but not one that fit with the grandious standards of Yosemite or Yellowstone. Bandelier's early proponent's view of the potential park's boundaries was expansive given the unsettled nature of the Pajarito Plateau. Besides, significant Anasazi and early Pueblo ruins

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4. The Forest Service is notoriously possessive of its land holdings and goes to great lengths to maintain its land base. A study of the Mt. St. Helens National Monument formation provides a prime modern example of this. Other agencies are similarly possessive of their holdings as the El Malpais National Monument dispute between the NPS and the BLM in 1988 showed.
5. Footnote 3 Supra, p. 3.

existed in abundance from Santa Clara Canyon's Puye Cliffs beyond Sanchez Canyon to the south. In the early part of this century National Park status was to be conferred on landscapes that were considered "crown jewels" and were otherwise worthless for economic purposes.[6] But at the time, no one, except the poor homesteaders of the Pajarito and the Pueblo Indians, were arguing that this high desert land, cut with formidable canyons, was not "worthless" for frontier exploitation.

The early conflict centered on the appropriateness of a national park for an area whose attributes were primarily archaeological. The Valle Caldera just to the west of Bandelier was proposed as part of several park proposals between 1910 and 1986, but inclusion of the Valle shifted the focus of the park from archaeology to geological splendor and caused divisions among park advocates, many of whom viewed the Jemez landscape as commonplace.[7] In the end, only 23,000 acres were set aside for archaeological preservation and the remainder of the Plateau was released to private uses and the U.S.D.A Forest Service.

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6. Alfred Runte, *National Parks the American Experience*, 2nd, ed. (Lincoln: University of Nebraska Press, 1987), p. 58.
7. Old files from the Bandelier library archives, including studies of Valle Grande national park proposals published by the NPS in 1979 and 1964.

In 1942 Robert Oppenheimer, the world famous atomic physicist who owned a summer cabin on Grass Mountain in the Sangre de Cristo Mountains noticed the potential of the Pajarito Plateau area as a site for the super secret atomic bomb designing Manhattan Project. His suggestion of the area for this project was accepted by project leaders in Washington, and the town of Los Alamos was started on the site of the existing private Los Alamos Ranch School.[8] Not only would the increasing population at Los Alamos eliminate much of the Pajarito Plateau for possible national park designation; it would change the economic and environmental course of events for all of New Mexico.

In this historical setting, Bandelier National Monument's 32,700 acres today lie surrounded by U.S. Forest Service, and U.S. Department of Energy lands. Private lands to the west of the park belong to the Dunnigan family which owns more than a township of former Spanish Land Grant land in the Jemez that dating from the sixteenth century. A relatively small band of land to the south, the Canada de Cochiti is owned by the University of New Mexico and is rich

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8. U.S.D.O.E. Los Alamos Scientific Laboratory, *Los Alamos, Beginning of an Era*. (undated), p. 10.

in historic and prehistoric sites. Congres has authorized its addition to Bandelier but the transaction is stalled.[9]

Threats to Bandelier

Bandelier is a generally open plateau cut by several deep canyons and side canyons. Since the La Mesa forest fire of 1977, the monument has become more open, with a wider viewscape. Except when one is in a canyon, it is possible to see great distances from Bandelier. Construction of radio antenea, clearcutting of nearby forests and bright lights on neighboring jurisdictions intrude on the primitive experience in Bandelier.

Other threats to the park's ecological integrity exist as well. Flooding of the lower canyons by Rio Grande River waters backed up behind Cochiti Dam have caused great damage to the park. Logging near the boundaries threatens the ecology on a number of counts while powerline construction and weapons testing on nearby Department of Energy lands damage environmental qualities as well.

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9. U.S.D.I. National Park Service, Bandelier National Monument, *Draft Statement for Management, Bandelier National Monument*, (1989). p. 25.

Bandelier's wilderness streams are vulnerable to water pollution just as the views within the park are vulnerable to increasing ambient air pollution levels in the region.

Over the last fifty years, Bandelier has faced a number of incompatible developments on neighboring lands. Many of these occurred or nearly occurred on lands directly adjacent to the park while others have been centered relatively far away.

In the late 1970s Bandelier faced a problem with energy companies and the USDOE taking an interest in developing geothermal electrical power plants in the Jemez Mountains. In the era of the "energy crisis," geothermal energy seemed to be a real possibility as a clean alternative energy source. Thermal areas from California to New Mexico experienced a rush of development interest.

The Jemez Mountains are a young volcanic range. Hot molten rock lies close to the surface in many areas to the south and west of Bandelier, creating hot springs and the potential for geothermal energy developments. From 1971 through 1978, 220,000 acres of Jemez Mountain land were leased to oil companies and utility companies for the purpose of geothermal exploration and development.[10] Much of

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10. Theodore Davis, "The Jemez Mountains: Purposeful Destruction of a National Treasure." *The Workbook* 10, Southwest Research and Information Center. p.7.

this land included the Baca Location, which encompasses the Valle Grande and borders Bandelier on its southwest boundary. Union Oil Company of California and Los Alamos National Laboratory joined with New Mexico's major utility in proposing to build a 50 mega-watt geothermal powerplant near Redondo Peak.

PNM began construction of the powerplant while the DOE prepared and released the environmental impact statement on the project. Subsequent hearings revealed widespread public opposition to the power project from residents of Jemez Springs and Jemez Pueblo downstream from the plant. Further, the powerplant was planned for an area close to Redondo Peak, one of the most sacred sites for many of the Pueblo communities of northern New Mexico.

Hearings before the New Mexico Public Service Commission revealed widespread opposition and suspicion about the project from residents and scientists who questioned air and water quality impacts from the project and the economics of building such a project given the weak steam supply that drilling at Redondo had revealed.[11] Ultimately the project was dropped when the weakness of the steam was understood. Public opposition increased after it was discovered that the Public Service Company of New Mexico had begun construction

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11. Ibid., p.8.

of its part of the project before the environmental impact statement (EIS), public hearings, and permits for any of the project were issued. LANL dropped out of the project and it was abandoned before the State could issue a ruling or a permit.

The associated developments from the geothermal project would have directly affected Bandelier. PNM entered negotiations with Bandelier in 1978 regarding the possibility of building an electrical transmission line through Frijoles Canyon and down toward Los Alamos along Bandelier's northern boundary.[12] It is likely that the powerline would have been at least a 117 kilo-volt line, the type requiring three poles per set and associated large insulator complexes.

Bandelier and the NPS Regional Office refused PNM's application for the right of way, citing the mandate of the NPS to protect park resources. The NPS officials stated that denying permission for the corridor was "consistent with the mission of the Service as it relates to the protection of park lands and resources." The NPS stated further that Bandelier's 1915 enabling legislation said

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12. Hal Rothman, *Bandelier National Monument, An Administrative History*, (Santa Fe, New Mexico: Southwest Cultural Resources Center, 1989), Professional Paper No. 14, Southwestern Region, National Park Service. p. 135.

nothing about allowing industrial projects on National Park lands.[13]

PNM sought to site its electrical transmission lines where they thought they would encounter the least public resistance, just as they would later do with the proposed Ojo Line Extension powerline. PNM sought to avoid building the powerline near Los Alamos or its recreation areas and it seemed to reason that the NPS would prove a weak antagonist against the DOE and an energy panicked society.

If the geothermal project had been permitted to continue or if it had proven politically and economically viable, it is difficult to say weather a power line would have been built on NPS lands in Frejoles Canyon. Bandelier's Superintendent, John Hunter, made a strong and effective effort to protect Bandelier's interests at the time as he would again later in other situations. It remains possible that future economic conditions could make the 99 year leases many energy companies hold to Forest Service and private lands in the Jemez attractive for geothermal development again, though the discouraging results of the initial tests seem to argue against this.

Bandelier has faced another similar threat more recently. The same utility company, the Public Service

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13. Ibid., p. 136.

Company of New Mexico (PNM) supported by the Department of Energy (DOE) at Los Alamos National Laboratory, proposed construction of an utra-high voltage powerline through the Jemez Mountains during the time of the geothermal exploration in the 1970s. Dubbed the Ojo Line Extension (OLE) powerline, PNM proposed to build the 345 kilo-volt (KV) line through the Jemez to collect power from the never-completed geothermal plants. Their 1972 proposal for the OLE line died along with the rest of the geothermal project, but the proposal was revived in 1985, ostensibly to provide power to LANL, which was experiencing new growth associated with research into then-President Ronald Reagan's Strategic Defense Initiative (SDI).

In 1985 PNM proposed two possible routes for the OLE line which was to connect an existing 345kv powerline north and west of the Jemez (see map) with another high voltage line near Santa Fe.[14] One route would have passed through the Rio Grande Valley north west of Bandelier while the other would have passed through the Jemez Mountians, across the Valle Grande and within view of much of Bandelier.

PNM argued that northern New Mexico and Albuquerque would experience blackouts and other power shortage problems

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14. Thomas Ribe "A Proposed Powerline Jolts New Mexico" *High Country News*, Paonia, Colorado, 31 March 1986.

if OLE were not built by 1987, since its state wide grid of power lines would remain incomplete and incapable of distributing the growing power needs of Los Alamos and Santa Fe. Los Alamos in particular, it was argued, would suffer voltage shortages since the city and the laboratory were only served by a 117kv powerline.[15]

PNM proposed to begin building the OLE line in late 1986, but several Pueblos, the All Indian Pueblo Council (a group of Pueblo Governors), the State of New Mexico, the Sierra Club, and *Save the Jemez* all joined in a lawsuit challenging the validity and legality of the FEIS for the OLE project.[16] The plaintiffs in the suit argued, with support from national experts like Alfonso Ortiz and Amory Lovins, that the powerline was unnecessary, was poorly sited, would violate religious freedoms of the Pueblo people and would do unacceptable harm to the Jemez environment.[17]

The National Environmental Policy Act suit is active to this day and has delayed the OLE project for three years. The case is still pending before the Federal District Court

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15. USDI Bureau of Indian Affairs, (prepared by PNM) *Final Environmental Impact Statement for the Ojo Line Extension.* (Albuquerque, New Mexico, 1986).
16. Grove Burnette and Aletta d'A. Belin, *Statement of Reasons in Support of Appeal.* (December 1986).
17. New Mexico Attorney General's Office *Appeal of the OLE Line Extension 345kv Overhead Transmission Line and Substation Project.* (Santa Fe, New Mexico, December 1986).

in Albuquerque[18] and is expected to go to trial in early 1990.[19]

In the mean time none of the blackouts and power shortages that PNM predicted would occur in the absence of the powerline have occurred.[20] LANL has laid off employees and reduced its power consumption; further layoffs and project closures are expected as a result of cuts in the SDI budget in 1990.[21]

The main impact of the OLE powerline on Bandelier, if built, will be largely aesthetic. The powerline would consist of steel towers 130 feet tall, five to the mile.

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18. In early 1990, a seperate lawsuit against the DOE and PNM was filed by a former DOE employee who was a high level official with LANL on the OLE project in 1985 at the time the EIS was being prepared and the issue was highly controversial. His suit charges the DOE and PNM with collusions, racketeering, perjury, and suppression of competition in relation to the OLE project. He charges that the agencies falsified information regarding need for the powerline and worked to keep competing utility companies from serving DOE's need in Los Alamos. The case will be heard in the same court where the OLE NEPA suit is pending and will bear heavily upon the *Save the Jemez* case.
19. Personal communication with Grove Burnette, J.D.
20. A former LANL employee who supervised the Department of Energy's role in the development of the OLE EIS filed suit in Federal District Court in Albuquerque in April, 1990 charging the DOE and PNM with collusion, racketeering, and perjury. The employee charged that the two organizations conspired to prevent other utilities from competing with PNM in the northern New Mexico power market and conspired to mislead the public about the nature and purpose of the OLE project. Some observers doubt that OLE will be built in light of this second suit and the obvious connections between the two.
21. *Los Alamos Monitor* articles 17 November, 1989.

These would be visible from most areas of the Bandelier back country and would be visible from the park's highest point, the peak of Cerro Grande. Further, the powerline would slice through the Valle Grande National Natural Landmark, which the NPS has an interest in acquiring from its current owners.

In response to the OLE threat, Bandelier and NPS Regional Office officials did little other than express opposition to OLE during the Draft EIS response period. In their letter to the Bureau of Indian Affairs, which was Lead Agency for the project, the NPS stated that it hoped the BIA would recognize the "need to coordinate with the NPS concerning impacts to Canones Creek and the Valle Caldera." The NPS conceded that the project would be built and simply stated that it hoped to have a say in mitigation measures.[22]

This measured political response to the OLE problem typifies the response of Bandelier and the Southwest Regional Office when more powerful federal agencies are breathing down their neck. Given that Los Alamos Laboratory represents the largest economic entity in northern New Mexico, the NPS has been timid about asserting its views when Los Alamos has favored a project like OLE.

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22. U.S.D.I.B.I.A. *Final Environmental Impact Statement for Ojo Line Extension* (PNM) (Albuquerque, NM August 1986). p. E-110.

It might be argued that the NPS has little basis for asserting its preferences on land use decisions outside the park. In the OLE case however, the NPS has a direct jurisdictional responsibility over the question of National Natural Landmarks (NNL), a federal designation to encourage preservation of private lands of recognized importance to the nation.[23] The Valle Grande is designated a National Natural Landmark. According to the National Natural Landmark Program, the NPS has the responsibility of reporting to Congress whenever a registered NNL is threatened by some development activity. The Southwestern Regional Office of the NPS has this responsibility with reference to the Valle Grande. Yet Congress was not notified about the threat of the OLE powerline, which would have crossed the Valle Grande, until the Bandelier Staff Ecologist took it upon himself to press for notification almost a year after the final environmental impact statement (FEIS) on the OLE project had been issued.[24]

A similar interaction between Bandelier and Los Alamos National Laboratory occurred in 1985 when Los Alamos proposed building two munitions projects near Bandelier. The first was a firing range where DOE security guards could

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23. 36 C.F.R. sec. 1212.
24. Personal communication with Craig D. Allen, BNM Staff Ecologist.

practice firing semi-automatic rifles. It was proposed for a canyon area within a mile of Bandelier's detached Tsankawi Section. The second, called the "Overblast" project, was to be built within a mile of Bandelier's northern boundary on DOE land. Overblast would have involved setting off between 30 and 100 explosions daily for up to five years to test materials relating to military research.[25]

The potential damage to Bandelier from both projects was high. The firing range would have filled the Tsankawi Section with the sound of nearby military-type rifle fire almost daily. The Overblast project would have set up sound pressure levels of 75 to 116 decibels, roughly equivalent to the sound of a jet at 1000 feet.[26]

Bandelier's Superintendent John Hunter made a persistent effort to convey the park's concerns about these projects to DOE officials. Several letters were exchanged between the NPS and DOE, but DOE continued construction of both projects despite park objections. When the park suggested that DOE find other locations for the projects, the DOE responded

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25. Hal Rothman, *Bandelier National Monument, An Administrative History.* (Santa Fe, New Mexico: Southwest Cultural Resources Center, 1989), Professional Paper No. 14, Southwestern Region, National Park Service. p.140.
26. Thomas Ribe, "Bandelier Officials Worry About Noise From Lab Projects" *Santa Fe New Mexican* 10 November, 1985. p. B6.

that construction had begun and that "we would have to live with these sites."

NPS Regional Director Robert Kerr stressed NEPA regulations requiring public review and the need for an environmental impact statement[27] in a memo he sent to LANL area manager Harold Valencia on July 25, 1985.[28]

Clearly Los Alamos Lab had little fear of the political power of the NPS. In the terrorism panic of the time, which was fueled by the recent bombing of the Marine Headquarters in Beirut Lebanon, DOE felt assured of political support for its military and anti-terrorism activities.

As a journalist working on this story for a local paper, I concluded that the lab had taken public opinion into account only to the extent that it tried to keep both projects out of the public eye. It was alleged that the Los Alamos Monitor newspaper had an agreement not to cover these stories as it did with many other secret research projects at Los Alamos.[29] When I came to Bandelier in the fall of 1985, I found a high level of frustration over these projects and published two articles about them in a Santa

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27. 40 C.F.R. 1500.1(b).
28. Bandelier files.
29. This allegation came up during several conversations I had with various DOE and other agency personel while covering the story.

Fe[30] and a Colorado paper.[31] Soon thereafter an impressive amount of press coverage, including national media and the Los Alamos Monitor stirred an angry public response and LANL was forced to abandon both projects. In the case of the rifle range, LANL worked with NPS officials for months trying to find a suitable location after the public outcry.

In the case of the Overblast and rifle range crisis, the NPS did an effective job of asserting the park's interests and ultimately finding a way to seek public support for their position. The NPS did not attempt to rally public support the same way in the later OLE situation, perhaps because the NPS does not perceive OLE as a threat to tangible resources in the same way nearby explosions would have threatened delicate Indian artifacts and visitors ears.

Bandelier had a disagreement with Santa Fe National Forest officials in the summer of 1989 regarding oil and gas leasing on USFS lands across the Rio Grande from the Bandelier back country. The Rio Grande forms the eastern boundary of the park with a section of national forest land that includes rolling hills of shrubby pines and juniper. The area is central to the viewshed of most of the park,

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30. "Bandelier Officials Worry about Noise from Lab Projects," *Santa Fe New Mexican*, 10 November, 1985. p. B6.
31. "Weapons Research Harasses Monument," *High Country News*, 11 November, 1985, p.4.

particularly areas frequented by auto-bound visitors. Conservationists have pressed the Forest Service over the years to leave the area without roads and to protect the view and the sense of wildness from the Bandelier viewpoints. The Santa Fe Forest had mapped the area as "semi-primitive, non-motorized" in the Santa Fe Forest Plan of 1987.

In July of 1989 the Forest Service notified the NPS and interested citizens that it planned to analyze options for leasing the Caja del Rio to oil and gas producers. Conservationists responded with expected concern and alarm and the new Bandelier Superintendent, Jose Cisneros, consistent with his convictions and stated priorities, responded forcefully to the USFS. Cisneros stated that the areas roadless nature should be maintained for the purposes of aesthetics and to protect endangered bald eagles that roost along the Rio Grande near the proposed lease site.

In August the USFS announced that it was abandoning its analysis of the area for oil and gas development in defference to the stated concerns of the NPS and the public.

Other federal agencies have affected Bandelier with their actions as well. In 1958 the U.S. Army Corps of Engineers began construction of the Cochiti Dam about 12 miles down river from Bandelier National Monument's southern

boundary on White Rock Canyon of the Rio Grande River. Cochiti Dam was conceived as a flood control dam in the era of large dam projects in the western U.S. built primarily by the U.S. Bureau of Reclamation. By the time Cochiti's construction was well underway in the late 1960s, it had evolved among its backers into a "multi-purpose" dam for flood control as well as a reservoir for recreation and economic development.[32]

Cochiti Dam was built on land leased from nearby Cochiti Pueblo. The U.S. Army Corps of Engineers built the dam while a California developer sought to build Cochiti Lake City on its shores. The dam materialized according to plan, but the city never did. Seepage from the dam has destroyed the farmlands of the Cochiti Pueblo, prompting a multi-million dollar lawsuit.[33]

In the 1960s the momentum to build large dams for water storage, agriculture, flood control, and economic development was strong. The Southwest Regional Office of the NPS understood that Cochiti Reservoir presented a severe threat to Bandelier's lower canyons and entered objections

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32. Hal Rothman, *Bandelier National Monument, An Administrative History*. (Santa Fe, New Mexico: Southwest Cultural Resources Center, 1989), Professional Paper No. 14, Southwestern Region, National Park Service. p.147.
33. William DeBuys, "Cochiti: The Dam that Got Away" *Audubon* Magazine, (June 1977): 121.

in the record. But the NPS officials were mindful of the economic arguments and assured each other that flooding of archaeological sites such as Kiva House in lower Alamo Canyon would not be that great a loss considering the need to protect Albuquerque from damage to houses built on the Rio Grande floodplain.

Beginning in 1979 and continuing to the present, Cochiti Reservoir began to increase in surface area due to a fairly wet period in the local climate. The various federl agencies involved with the reservoir, including the NPS made agreements that allowed Cochiti Dam to flood more land in White Rock Canyon than had originally been agreed to by the NPS and the Corps of Engineers in 1958. Bandelier Superintendent John Hunter pressed the point with the Corps that the trail along the Rio Grande would be destroyed by the flooding of the canyon. In response, the Corps supplied a small amount of money to relocate the trail to the mesa tops near the river and went ahead with their plans.[34]

In 1985 Cochiti Reservoir severly flooded White Rock Canyon in Bandelier, destroying popular beaches, ancient ponderosa pine and areas of large juniper where springs created little oases. Cochiti's waters backed up into the

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34. Conversation with John Lissoway, BNM Resource Management Specialist, Summer 1989.

bottoms of Capulin, Alamo, and Frejoles Canyons, bringing flotsam, exotic plants, motorboats and death to all the native vegetation within the Rio Grande Canyon. One of the most remote and valuable archaeological sites in Bandelier, the Painted Cave in lower Capulin Canyon, was within easy reach of motorboat traffic (though more than a mile walk was still required from the water's edge to the cave). The reservoir also presented the NPS with a law enforcement problem that it was unable to grapple with due to low funding, and the remoteness of the problem areas relative to NPS facilities.

As Cochiti dam has filled with silt from the muddy Rio Grande over the years, the silt has settled in the reservoir and the Corps of Engineers say that the area of the reservoir will have to expand in order to compensate for the loss of depth. Thus Bandelier is assured that the zone of devastation in its lower canyons will continue to experience periodic flooding. The giant old growth ponderosa pine, the forests of juniper trees hung with grape vines and the small clear springs are all gone now replaced by a weed field among the remains of the trees. Archaeological sites such as Kiva House may be beyond salvage.

The Cochiti Reservoir problem illustrates how the NPS's weak position relative to other federal agencies can

directly affect the land and features of our parks and monuments. In the 1950s and 1960s the NPS was dwarfed not only by the drive for economic development but by the political power of agencies like the Bureau of Reclamation and the U.S. Army Corps of Engineers, both of which spent millions on dams throughout the west. The complex of agreements among agencies, water users, states, and even the U.S. and Mexico that govern the use and flow of the Rio Grande leave the NPS as an essentially insignificant player.[35] Protection of homes built on floodplains in Albuquerque and Truth or Consequences, along with agreements with southern New Mexico irrigators, left the aesthetic, archaeological, and wilderness needs of a portion of Bandelier as a sacrifice zone.

Interest in building a second road from Santa Fe to Los Alamos across land near Bandelier ebbed and flowed between 1930 and 1989. The existing highway between Los Alamos and Santa Fe followed a historic route that took it well to the north before turning west toward Los Alamos. When Los Alamos National Laboratory began to consider the problem of large stockpiles of low-level nuclear waste at Los Alamos,

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35. Charlotte Craig JD. (Former Bandelier Back country Ranger), "The Rio Grande Floods Bandelier National Monument: A Case Study in Water Management," unpublished manuscript, December 1985.

it began to plan ways to ship that waste to the anticipated Waste Isolation Pilot Project repository near Carlsbad, New Mexico. LANL proposed that the additional road idea be revived in order to allow shipping of the waste without entering populated areas. (The DEIS for the road project assured the San Ildefonso Indians that they would be free to develop business along the new road however).[36]

The new road idea presents a potential threat to Bandelier in several ways. First, it would involve building a major new intersection on the boundary of the detached Tsankawi section north of Bandelier. Second, of the four routes under consideration for the road, one would pass along the boundary fence at Tsankawi, placing roads on three of four sides of that tract. Two of the other three routings would place the road within the visual and audio corridor of the Bandelier viewshed. Finally, the road would increase the ease with which people got to the Jemez Mountains and Bandelier in particular. Bandelier is already unable to accommodate the nearly 300,000 visitors who visit the park annually. No planning for Bandelier accompanied the road plans drawn up by LANL and the two highway departments.

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36. DEIS "Santa Fe-Los Alamos Corridor Study Federal Highway Administration and New Mexico State Highway Transportation Department," July 1988 p. 43.

Residents of Los Alamos have been eager to lessen their sense of isolation on "The Hill," and the road seemed to be a popular strategy for increasing access to the shopping centers of Albuquerque and Santa Fe. The business community in Los Alamos supported the road strongly at first, but seemed to cool to the idea when the possibility that the already depressed business atmosphere in Los Alamos would sour further when Santa Fe became more accessible. Letters to the Los Alamos Monitor warned that only grocery stores and gas stations would remain in Los Alamos if the road were built.

Environmentalists warned the road reviewers that lawsuits were likely if impacts on either section of Bandelier were not fully considered according to NEPA in highway planning. In July 1989, the State of New Mexico announced that it was withdrawing the existing DEIS for the road and planning to rewrite it in light of the many changes that had been made to the proposal since the initial plan was reviewed. Opposition by the NPS and its backers may have had an effect on that decision. Nothing has been heard about the road in the press since the DEIS was withdrawn.

Bandelier has faced considerable conflict with its neighboring agency, the U.S. Forest Service, over road building, logging, and acquisition of private lands. Those

problems form the bulk of this study since the NPS and Forest Service relationship is highly contentious elsewhere in the United States as well. In part, I hope to shed light on a broader problem with the example of Bandelier.

Bandelier borders private land in two areas. First, the Baca Land Grant, owned now by Dunnigan Enterprises of Abilene Texas, borders Bandelier along some 8 miles of boundary. A fifty acre tract of land owned by a Los Alamos businessman also shares a boundary with the park, defined in this case by Highway 4.

This smaller section of private land has caused Bandelier considerable concern over the last decade and a half. In the late 1940s and 1950s the area was a ski run called Sawyer's Hill and was owned by the Atomic Energy Commission, which operated Los Alamos Scientific Laboratory after the end of world war two. Sawyer's Hill was a small north-east facing slope with a cabin at its base and a rope tow up through the douglas fir and aspen. Early Los Alamos history is rich with stories from this slope.

When Los Alamos moved its ski facilities to the north face of Pajarito Mountain, it abandon Sawyer's Hill. The Girl Scouts of America purchased the tract for a summer camp. The scouts owned the land until 1980 when it was put

up for sale. Before the NPS could get in a bid on the land, it had been sold to a group of Los Alamos investors.[37]

Sawyer's Hill would be a valuable tract for Bandelier to obtain because it contains a largely pristine mixed conifer forest in an area adjacent to land obtained by the NPS on Cerro Grande in 1978. Further, the NPS would have been able to interpret the historical aspects of the property. But the Los Alamos investors announced plans to build a residential subdivision on the land with 4 houses per acre.

Bandelier's staff was very concerned about this turn of events because such a density of housing on the boundary of one of the more remote and wild areas of the park would have caused many problems. Law enforcement, pet intrusions, aesthetic problems such as noise and litter, and the problem of off road vehicle trespass were all likely. But Superintendent John Hunter told the land's owners in a meeting in 1980 that the NPS "had no real grounds to oppose rezoning to support the project."

The developers had difficulty convincing Los Alamos government to rezone the land from "wilderness recreation" to high density residential. Further complications arose

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37. Hal Rothman, *Bandelier National Monument, An Administrative History*. (Santa Fe, New Mexico: Southwest Cultural Resources Center, 1989), Professional Paper No. 14, Southwestern Region, National Park Service. p.129.

for the owners involving utility access to the area and land exchanges with the Forest Service to make rezoning possible. Ultimately the question of rezoning Sawyer's Hill ended up on a referendum ballot in the summer of 1981. Los Alamos residents rejected the rezoning but the speculators went to court to challenge the legitimacy of a referendum.

Over time, legal problems and high interest rates forced the owners to sell the property to another Los Alamos businessman who has entered negotiations with the Forest Service to exchange the property with one closer to Los Alamos.[38] The Forest Service would like to log this tract as it has most of the other lands bordering Bandelier.[39]

The Dunnigan family sold a small tract of its land bordering Bandelier near Graduation Flats in 1984. A businessman from Los Alamos bought this 30 acre tract and built a house on it. The owner has been helpful in informing the NPS rangers of law enforcement problems in the area, but as of the summer of 1989 he was interested in selling the land. The NPS expressed an interest in purchasing the land, but a moratorium on NPS land

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38. As of spring 1990, the Sawyer's Hill tract as been exchanged to the Forest Service.
39. According to conversations I've had with conservationists close to the Sawyer's Hill dispute, the Forest Service is interested in the tract primarily for building roads to access high altitude timber stands blocked by Bandelier now.

acquisition imposed by then Interior Secretary Watt in 1980 is effectively in effect yet today.

Bandelier officials have been frustrated by the slow movement of the NPS regional office when land purchases are being considered. The real estate market moves faster than the government bureaucracy it seems. Private intermediaries such as the Trust for Public Land[40] have been helpful in making the needed deals in a timely fashion.[41] Despite its loss of the Sawyer's Hill tract, it seems unlikely that Bandelier will obtain the Graduation Flats tract.

Conclusions

Bandelier, like so many national parks and monuments around the nation, faces a variety of threats to its ecological and aesthetic integrity. Bandelier's situation is somewhat unusual since it borders land owned by the U.S. Department of Energy, which carries out Defense Department research there. The Department of Defense is perhaps the most politically powerful agency in the federal government.

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40. The Trust for Public Land (TPL) is a national non profit organization that obtains private lands for public use in order to preserve open space and environmental quality.

41. Private conversation with several Bandelier staff members during the summer of 1989 concerning the Canada de Cochiti land acquisition problem.

Bandelier's interactions with the DOE, the US Forest Service, and the Army Corps of Engineers clearly show the relative weakness of the NPS as an agency relative to the other agencies. In the face of massive ecological destruction caused by the flooding of White Rock Canyon by the Corps of Engineers, the NPS could only register complaints on the record. In this case, the weakness of the agency was not only political but a reflection of the fundamental priorities of a society that cares more about protecting homes built on a floodplain than it does one of the more remote stretches of wilderness desert canyon.

Bandelier's standoff with the DOE over the Overblast Project and the Rifle Range provided a classic study of the real political power of the NPS. The DOE refused to revise its general EIS to consider the specific impacts of the projects on the park. The DOE flatly turned down any requests that the NPS made to have the projects located farther from the Bandelier boundary. But at the same time, the DOE apparently convinced the local press not to cover the projects. When I covered the projects in 1983, the public anger descended on the DOE for its seeming callousness toward the park. Rightly the DOE had feared the effect of public opinion in this matter. The public's high

regard for national park lands proved a powerful protective force for Bandelier.[42]

But while the public reacts strongly to the spectacle of explosions and automatic rifle ranges on the park's boundary, they seem more ambivalent about high voltage power lines and roads which pose a longer-term threat to the aesthetics and ecology of the region. The public response to the OLE powerline has been limited after the initial 1985 controversy. Likewise with the new road, Los Alamos residents have been supportive of the road and have done little to acknowledge the concerns of conservationists or the NPS in this matter with regards to Bandelier.

The development of private lands near Bandelier poses a serious threat indeed if the park is to maintain its attractive setting, feeling of remoteness, and ecological integrity. But the NPS is almost powerless to regulate private land developments under the current legal framework. Congress can condemn private lands if it so chooses, but such actions are rare and frequently controversial.

If Bandelier is to maintain its integrity in the face of what has become a constant stream of threatening activities beyond its boundary, it must shore up its political base

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42. It is also true that the rifle range and Overblast project were relatively low priority projects for LANL and they let them go fairly easily.

among New Mexicans and it must obtain more land to buffer the natural and cultural resources from incompatible activities.[43]

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43. Park Boundaries: Where We Draw the Line. (Washington D.C.:National Parks and Conservation Association Press, February 1988). p. 334.

CHAPTER V

THE EFFECTs OF LOGGING ON FEDERAL LANDS NEAR BANDELIER NATIONAL MONUMENT

Federal timber sale programs on national forest lands have been the source of abundant controversy over the last seventy five years. With roadless lands on national forests becoming increasingly scarce, the battle over the wisdom of logging on remaining wildlands has intensified. Roadless areas surrounding national parks and monuments have drawn increased attention of timber cutters and conservationists. This chapter examines the controversy surrounding logging near Bandelier National Monument from the point of view of ecological and aesthetic impacts of logging to the park environment.

Like many parks and monuments in the western U.S., Bandelier National Monument is surrounded by National Forest lands. The Santa Fe National Forest adjoins Bandelier on its northern and southeastern boundaries. To date, because of the topography and the types of uses occurring on surrounding lands, those charged with the preservation of Bandelier have had a contentious relationship with officials of the Santa Fe National Forest.

As in most national forests, the officials of the Santa Fe National Forest have increased logging activity over the last two decades. Much of the logging in the Jemez Mountains has occurred on lands directly adjacent to Bandelier. The Santa Fe Forest Plan, enacted in accordance with the National Forest Management Act of 1976,[1] slates three moderately large timber sales to occur near the monument boundaries over the next 10 years.

Virtually all of the private and national forest land within five miles of Bandelier's boundaries has been logged in the last half century. The Santa Fe National Forest salvage logged the national forest land between Alamo and Frejoles Canyons after the catastrophic La Mesa fire of 1977. Since then the Forest Service has logged much of the upper watersheds of Alamo, Capulin, and Sanchez Canyons; further logging in these areas is slated for the next decade. Throughout much of this area, logging has reduced mixed conifer forests to brushfields.

Similarly, the land acquired by Bandelier National Monument from the neighboring Baca Land and Cattle Company, which owns the Valle Grande, was logged early in this century.[2] The National Park Service acquired 3076 acres of land in the Frejoles watershed to the top of the 10,500 foot

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1. 16 U.S.C.A. sec. 1600-1614, 1976.
2. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 155.

Cerro Grande in 1978. Though this land was selectively cut earlier in this century, it now has a nearly pristine character with mature aspen groves and forests of douglas fir, blue spruce, and ponderosa pine.

The local increase in logging on national forest land mirrors a national trend toward greatly increased logging on the national forests. The US Forest Service has been pressed by well positioned members of Congress and the Reagan and Bush administrations to increase the timber supply available to the wood products industry and to emphasize timber production over other "multiple use" values such as watershed maintenance, wildlife, and recreation.[3]

Logging and the Park Environment

Timber sales on federal forest land near national parks and monuments are of particular concern to those interested in their protection. Logging often scars the scenery from viewpoints within the national park or monument. Anyone who travels near the park, particularly on foot, finds areas where the wild character of the land has been obscured by timber harvest.

Timber cutting can fragment wild lands and alter basic ecological elements and relationships of the landscape.

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3. Jonathan Lash, Katherine Gillman, and David Sheridan, *A Season of Spoils* (New York: Pantheon Press, 1984), p. 252.

Logging, as practiced in the Jemez Mountains, requires building roads into forest areas, driving heavy machinery over the forest floor, and felling and removing trees, usually by dragging them across the ground behind a large tractor. As a result, soil structure is disturbed by gouging and compaction. A combination of heavy machinery use, frequent crossing by workers, and the felling and dragging of logs across the forest floor contributes to soil compaction. Ectomycorrhizal (fungal) activity within the soil, which promotes decomposition and soil building as well as nitrogen fixing, is usually destroyed over large areas where logging occurs, particularly in the arid Southwest.[4]

One only has to visit a "pristine" forest to sense what is lost when tree cover is wholly or partially removed by logging and the soil is damaged. The wide variety of plants and animals found in a virgin forest is destroyed to a significant extent by logging. Small, delicate plant groupings and non-economically important trees such as aspen and Rocky Mountain maple are often crushed. Nest trees and underground burrows for birds, reptiles, and mammals are often lost during logging operations and, when the operation is complete, the habitat is frequently no longer suitable for species indigenous to the forests of the region.

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4. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 157.

Significant alterations of the microclimate occur when logging removes tree cover. Soil temperatures, especially in the dry surface soils of the Jemez Mountains, rise due to increased solar exposure.[5] In addition shade dependent plants disappear in many areas and evapotranspiration from plants and evaporation from soils increases. Logged areas experience a drying and heating of the soil, desiccation of plants, and disruption of moisture dependent decomposition processes. Non-native or exotic plants, nemeses to park resource managers, often spread into the disturbed areas of a logging stressed ecosystem.[6]

Just as with trophy hunting, selective logging such as has been practiced near Bandelier tends to remove the strongest, largest tree specimens, leaving behind stocks of multi-stemmed or shade suppressed trees. Young trees left behind may be of similar genetic character to those larger trees removed, but these survivors may experience some shock or direct injury from the logging operation. Logging results in diminished genetic diversity of tree species.[7] Reforestation efforts in the Jemez, which might counter such effects to some extent, are often near-failures, especially in clear cut areas where soil heating and drying has

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5. J.P. Kimmins, *Forest Ecology*. (New York: Macmillan Publishing Co. 1987), p. 178.
6. Ibid., p. 248.
7. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 157.

occurred.[8] With the removal of the overstory, soils dry with the increase in solar radiation. Moreover, a long term drying trend in the northern New Mexico climate may alter conditions to the point where many areas will be too dry for pine regeneration. Increases in tree disease and insect infestation are common in ecosystems stressed by logging.[9]

The Forest Service usually opens a freshly logged areas on the Santa Fe National Forest to the public for firewood gathering. Though the Forest Service makes an effort to maintain a prescribed number of standing snags for cavity nesters (birds like flickers and woodpeckers, some owls and small mammals) and a prescribed number of down logs per acre for habitat purposes, fuel wood scavengers often cut these trees and remove the downed logs. This causes a marked decline in the soil building processes, and snag dependent species can no longer survive.[10] The Forest Service is unable to patrol these areas to insure that the downed logs or snags are left by fuel wood gatherers.

Logging also removes significant amounts of biomass from the affected area. The removed tree trunks contain significant amounts of nutrients drawn from both the soil

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8. Personal observations of forest regeneration projects in the western Jemez Mountains, 1987.
9. P.R. Hessburg, and J.S. Beatty, *Incidence, severity, and growth losses associated with ponderosa pine dwarf mistletoe on the Santa Fe National Forest New Mexico*, USDA Forest Service Pest Management Report 3420, Southwest Regional Office, Albuquerque.
10. Personal communication with Bandelier NM Park Ecologist, Craig Allen.

and the atmosphere. In a wilderness regime, trees decompose gradually over time and contribute not only to the return of nutrients to the soil in an organic form but also provide habitat for untold numbers of decomposing species from nematodes to fungus.[11] In arid areas like the Jemez Mountains, removal of tree matter amounts to nutrient and biomass *mining*, since the soil building process is slow and organic matter relatively scarce.

Timber sales are almost always preceded by construction of new roads or reconstruction of old roads. Roads can cause severe environmental damage depending on how they are engineered and where they are sited. Roads displace vegetation and reduce landscape productivity, promote landslides on steep slopes, and are the source of large amounts of wind and water driven sheet erosion, which can cause water and air pollution.[12]

Forest roads also provide motor vehicles with access to areas that may have been remote, inaccessible, and wild before the roads intruded. Roads disturb wildlife and decrease bird abundance. Deer, elk, bear and other large mammal populations decline as hunting, poaching and accidents take their tolls on previously remote populations. Roads in the Jemez Mountains disturb nesting peregrine

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11. J.P. Kimmins, *Forest Ecology*. (New York: Macmillan Publishing Co. 1987), p. 256.
12. John D. McCashion and Raymond Rice, "Erosion on Logging Roads in Northwestern California: How Much is Avoidable?" *Journal of Forestry* (January 1983), p.23.

falcons, zone tailed hawks, and flammulated owls.[13] Roads also inhibit migrations of small mammals and amphibians such as the threatened Jemez Mountain salamander and can disrupt their population regeneration and dispersal as a result.[14] Roads also act as fire breaks for all but the highest intensity fires, greatly disturbing the natural fire regime in an area and generally increasing the negative ecological effects of fire suppression.

Many individuals who use "off road vehicles" (ORVs) on Forest Service roads are unfamiliar with or uninterested in the concepts of preservation and conservation. As a result they often cause significant harm to wildlife, soils, and plant communities with their vehicles and with their behavior.[15] Gun shooting, often at trees and wildlife, littering, noise pollution, and thrill maneuvers which damage plants and root structures and dramatically increase soil erosion, are common in roaded national forest areas as a direct result of ORV use on logging roads.

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13. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 163.
14. H.J. Mader, "Animal habitat isolation by roads and agricultural fields," *Biological Conservation* 29. 1984. p. 81.
15. Tom Ribe, "Federal Agencies Slow to Battle Off-Road Warriors" *Forest Watch* 9, October, 1988. p.24.

Logging Near Parks And Monuments

Increasing logging on national forest lands near national parks has stirred considerable controversy over the last decade. National news reports in the eastern United States as well as in the West have featured conflicts between timber cutters and national park interests.[16] Logging near the boundaries of Crater Lake National Park, near Yellowstone National Park, Grand Canyon National Park, Glacier National Park, Kings Canyon National Park, and Bandelier National Monument have all stirred controversy.

Logging is a disruptive influence on a forest environment in any setting, but it can be particularly damaging when it occurs near an ecosystem or portion of an ecosystem intended for preservation. Logging, particularly clearcut logging, can cause severe surface erosion, disrupt discharge of water from soil into watersheds, pollute rivers and streams, and damage wildlife habitat essential to the survival of park wildlife populations.[17] All of these disturbances, especially if associated with logging that is carried out over large areas, can have negative effects on a park's ecological integrity.

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16. Numerous newspaper articles retrieved on Nexis (tm) from *The Chicago Tribune, The Washington Post, The New York Times.*
17. J.P. Kimmins, *Forest Ecology*. (New York: Macmillan Publishing Co. 1987), p. 424.

Many parks and monuments do not include enough of the "ecosystem" needed to support animal populations dependant on the habitats and seasonal ranges of that ecosystem. For example, Yellowstone National Park's elk and bison populations require winter range that is largely outside of the national park boundaries. Much of the lower elevation winter range used by these animals for centuries is now developed for housing or agriculture. Farmers and ranchers may not wish to share forage with park wildlife, particularly if the park wildlife is perceived as diseased. In the last year, Montana allowed hunting of bison that wandered into the Gardner Valley to escape frigid conditions in Yellowstone and dimished winter forage due to the previous summer's forest fires.

These events in Wyoming and Montana provide a dramatic illustration of how inadequate park boundaries threaten wildlife that depends on habitats outside a park.

Of the four major streams that course through the monument Bandelier National Monument only contains the entire watershed of one. The U.S. Forest Service manages the upper reaches of the other major streams. These streams flow through canyons which are major unique geographical features. While many western parks such as Yellowstone contain the headwaters of streams and rivers, Bandelier is downstream on many of these intermittant streams. This boundary positioning has implications for water rights,

water quality, archaeological features, and wildlife management.

In most of the West, logging has intensified to the point where parks and designated wilderness contain the only significant areas of relatively undisturbed wildland. Larger parks such as Glacier and Yellowstone represent substantial islands of wilderness in a sea of public and private lands experiencing intense development pressures. For smaller parks such as Bandelier, the wilderness island is especially small relative to the historic wildland to which it once belonged. Though some patches of true wilderness exist within 10 miles to the north of Bandelier, most of the middle to high elevation areas around Bandelier have been impacted by intensive logging and road building.

The damage that logging can cause to parks depends on the proximity of other logging areas to the park, the geographic setting and the types of sensitive species in the area. If logging removes the overstory shelter trees from large mammal winter range, those species will experience more stress in the winter months. If logging removes habitat trees for birds or small mammals over a wide area, those species will decline, at least locally and probably regionally. The remaining critical habitat within the protected park boundaries becomes an island with the

potential for immigration from the surrounding area becoming difficult or impossible.[18]

Parks often contain relic ecosystems, or those that take centuries to become established. Whether coastal rainforests in the Pacific Northwest or semiarid forestlands in the Southwest, such ecosystems can be displaced permanently by logging or catastrophic fire. Logging is usually more damaging to these ecosystems, since logging involves removing much of the nutrients and organic matter from the area while fire recycles nutrients back into the soil.

The Jemez Mountains receive between 15 and 20 inches of rain per year.[19] And while the area is heavily forested above 6000 feet, the semi-arid conditions slow forest growth and impare regeneration. A ponderosa pine may take 300 years to reach a 15 inch DBH (diameter at breast height) depending on the exact location. Due to the recent, volcanic origin of the Jemez, most Jemez soils are shallow except for the canyon bottoms. The volcanic bedrock of the Pajarito Plateau lies within a few inches of the soil surface throughout most of the monument. The sandy nature of the soils and the absence of groundwater in most places

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18. T.E. Lovejoy and D.C. Oren, "The Minimum Critical Size of Ecosystems". *Forest Island Dynamics in Man-Dominated Landscapes* (New York, Berlin: Springer-Verlag), p.7.
19. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 7.

insures that the soils retain moisture poorly. Consequently, tree growth is often slow.

Logging in the mixed conifer or ponderosa pine areas near Bandelier leaves a lasting impression on the land. The trees are slow to grow back in such arid conditions, particularly if logging has changed the microclimate of the site or if livestock are causing soil compaction and damage to tree seedlings or other plants which contribute to soil moisture retention. In the New Mexico climate, stumps are slow to rot; logging scars can remain for decades with consequences to the species composition of the area and to its aesthetic qualities.

Aesthetic Damage From Logging

Whether articulated or not, visual damage to landscapes caused by logging seems to be one of the two major reasons environmentalists oppose logging programs near national parks and elsewhere. But aesthetics are a highly subjective matter. Research has shown that a majority of the public enjoys viewing wild landscapes over those showing damage from human activities.[20] Seemingly aware of this bias, the timber industry and the Forest Service have gone to great

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20. S. F. McCool, R.E. Benson, and J.L. Ashor, "How the Public Perceives the Visual Effects of Timber Harvesting" and Evaluation of Interest Group Preferences." *Environmental Management* (1986) 10 p. 386.

lengths to promote the aesthetics of "managed forests and to make some effort to minimize the visual damage of logging operations.[21] But it seems from the appearance of the land near numerous national parks in the west that in few instances have timber sale plans taken adequate account of proximity to national park lands.

Logging is prohibited **in** national parks for ecological and aesthetic reasons by the National Park Service Organic Act. By contrast, the U.S. Forest Service has an enthusiastic program of logging on the national forests, even near national parks. Logging has been attacked on aesthetic grounds for decades, but only recently has the proximity of that logging to parks become a primary dimension of the argument against logging in those areas.

The aesthetic aspects of logging practices became controversial within the legal realm when clearcutting became controversial in the early 1970s. In the 1970s the practice of clearcutting on the national forests sparked sharp public criticism of national forest management practices after the public became alarmed about deforestation on the Bitterroot, St. Joe and Monogehela National Forests.[22] The controversy centered on the appearance of the forest land after clearcutting. This

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21. *Oregon Forests 1989-1990*. (Klamath Falls, Oregon: Southern Oregon Timber Industries Association, 1989).
22. George Coggins, and Charles Wilkinson, *Federal Public Land and Resources Law* 2nd ed. (Mineola, N.Y.: The Foundation Press, 1987), p. 619.

controversy resulted in the passage of the National Forest Management Act[23] which amended the Renewable Resources Planning Act[24] and the Organic Act.[25] But these new laws have neither stemmed clearcutting or help establish aesthetics as a priority consideration on national forest lands.

Many argue that the Forest Service is driven primarily by budget maximization and economics rather than conservation or land management goals.[26] The Forest Service's apparent unwillingness to comply with directives to avoid clear cutting on national forests argues for this point of view. The National Forest Management Act directed the Forest Service to allow clearcutting only when it is deemed the "optimum" management technique available to achieve a silvicultural goal.[27] Congress also sought to enforce the multiple use mandate of the Multiple Use, Sustained Yield Act (MUSYA) by requiring the Forest Service to choose harvest techniques that achieve goals other than highest timber harvest levels at the lowest cost to the Forest Service. But despite these statutes, the Forest Service continues to prefer clearcutting over other harvest methods seemingly because it produces the most salable wood

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23. 16 U.S.C. sec. 1600-1614.
24. 16 U.S.C. sec. 467.
25. 16 U.S.C. sec. 1604(g)(3)(E)-(F).
26. Randal O'Toole, *Reforming the Forest Service* (Covelo, CA: Island Press, 1987), p.160.
27. Public Law 94-558.

at the lowest cost. Just as Congress feared it might, clearcutting has become the "optimum" timber harvest method throughout the national forest system, not because it fosters other "multiple use" values or is good for the forest environment, but because it helps the Forest Service maximize its budgets and cut more wood volumn per dollar spent.[28]

The federal government made a formal effort to study and plan for aesthetic affects of management activities on federal lands following the passage of the National Environmental Policy Act (NEPA) in 1969 and the National Forest Management Act in 1976. Both of these laws mandate "consideration" of visual impacts of activities such as logging, power line construction, and road building. But the effectiveness of these statutes turns on the word "consideration." Consideration per se does not mandate an outcome in terms of "on the ground" management activities. In fact, it effectively requires nothing more than a passing glance at a management problem; often a glance is all visual impacts receive from the USFS.[29]

Despite the failure of the NFMA to encourage agency behavior that would limit unsightly logging scars and

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28. Randal O'Toole, *Reforming the Forest Service* (Covelo, CA: Island Press, 1987), p. 73.
29. S.F. McCool, R.E. Benson, and J.L. Ashor, "How the Public Perceives the Visual Effects of Timber Harvesting and Evaluation of Interest Group Preferences," *Environmental Management* 10, p. 386.

promote sound forestry practices, the Forest Service and the Bureau of Land Management have made a limited effort to establish programs that take visual qualities into account during timber sale planning. However, these visual impact planning procedures have had little effect on timber sale planning and seem primarily designed to play a role in the public relations efforts of the agencies.[30]

The basis of the federal visual management programs rests in part on research showing that most people perceive "beauty" in unmanaged or relatively unmanaged landscapes.[31] Different people respond differently to alterations of a landscape according to their own personal or economic interest in the landscape. For example, if a person depends on the wood products industry for his or her income, that person is more likely to look favorably on logging scars or roads. Likewise if a person is raised in an area where the natural landscape has been heavily altered by human activities, he or she is likely to be more tollerant of such marks than a person from a more pristine area.[32] Landscape architects, grappling with these problems of landscape

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30. Personal communication with Professor Robert Ribe, Department of Landscape Architecture, University of Oregon.
31. Robert Ribe, "The Aesthetics of Forestry: What Has Empirical Preference Research Taught Us?" *Environmental Management* 13, p. 55.
32. S.F. McCool, R.E. Benson, and J.L. Ashor, "How the Public Perceives the Visual Effects of Timber Harvesting and Evaluation of Interest Group Preferences." *Environmental Management* 10 p. 385.

perceptions on a more detailed and specific level, have provided some guidelines for the federal government's efforts to manage visual damage to landscapes.

The Forest Service's aesthetic consideration program consists of a "visual management system" (VMS). This process distinguishes landscapes into "variety classes" or geographic areas of similar form and then classifies them into managment classes according to their potential visual sensitivity to the public.[33] These visual quality objectives (VQOs) are applied to specific areas to determine how much modification of the natural-appearing landscape is permitted by management activities. The VQOs range from preservation to "maximum modification." Interestingly, the visual management system guidelines assume that a "natural" or preserved landscape has the highest scenic value.[34]

In theory, the Forest Service employs landscape architects to help design timber sales to implement the visual management system. However the Forest Service VMS guidelines are vague. The guidelines provide little basis for landscape architects to have a significant affect on timber sale planning.[35] As a result, few timber sales are influenced by the VMS.

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33. Ibid., p. 389.
34. Ibid., p. 386.
35. Personal communication with Professor Ribe, University of Oregon Landscape Architecture Deparment.

The USFS visual management system focuses primarily on views from highly visited points such as highways or overlooks in national parks into account in its logging planning. In the Pacific Northwest the volume of timber sales all but prevents visual management. Corridors are maintained along highways to protect travelers from views of clearcuts. Efforts are made to protect the middle and near view in sensitive areas from blatant disturbance. But these special considerations are easily put aside in favor of economic considerations or when the politics of timber harvest programs conflict with aesthetic considerations.[36]

Like other national forests, the Santa Fe National Forest has a program of assessing visual impacts of timber cutting on viewpoints such as highways and hiking trails. On the Santa Fe National Forest, landscape architects who implement the VMS exercise their influence when timber sales are being "scoped." Landscape architects work out of the supervisor's office and are called in to help select alternatives for a harvest plan by the recreation staff at the district level. If the district recreation staff does not "invite" the landscape architects, they do not get involved.[37]

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36. Ibid.
37. The information about the Santa Fe National Forest VMS system comes from a phone conversation with Jim Bedwell, assistant to the Forestwide Recreation Planner on December 13, 1989.

Once a timber sale is approved and contracted to a logging company, the timber sale administrator is in charge of overseeing compliance with the environmental assessment and the timber sale contract. The environmental assessment contains VMS recommendations and guidelines which have either come from a landscape architect or from the Forest Plan where all areas of the forest are classified according to visual sensitivity.

Remarkably, USFS officials acknowledged that lands around Bandelier are not considered by the Forest Service to be important to the public in terms of visual management despite the fact that Bandelier draws more than 250,000 tourists per year. "Timber sales around Bandelier have not had much involvement of landscape architects" one official remarked.[38]

In summary, the USFS, through NEPA planning or through its landscape visual management system, effectively does little to protect national park or monument viewsheds from logging scars. It is possible for the public to assert its preference for protection of visual qualities in the environmental assessment or environmental impact statement (EIS) writing process, but most timber sales are exempted from public review through a finding of no significant impact (FONSI) or through a blanket writing of a form EA.

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38. Ibid.

Conclusions

Through the history of federal land management in the United States, national park or monument status has only been granted to lands with high scenic or historic values. People have a heightened sense of aesthetic expectiations when they visit the national parks and monuments. Logging scars, which are more plentiful and closer to the parks than ever before in history, disturb the aesthetic experience for park visitors.[39]

Logging is damaging to the ecology of a forest area in a number of ways. Logging damages watersheds, diminishes biological diversity, causes air and water pollution, and affects natural fire behavior. These negative impacts can have severe implications for adjacent national park or monument lands. In the Bandelier area, the USFS has not taken park and wilderness values into account in its timber sale planning near the park.

In the Bandelier region, logging presents one of the most significant threats to the Bandelier ecosystem. The scars from logging and road building last a long time. They

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39. I base this statement on my personal experience as a National Park Service ranger in three national parks over the last decade and many conversations I had with visitors over those years. I found many visitors were angered by clearcuts on the Sequoia National Forest just outside of Kings Canyon National Park where I worked. These clearcuts forced many to realize the difference between the National Park Service and the US Forest Service for the first time.

cause significant ecological changes which cummulatively affect the ecosystem.[40]

The National Park Service lacks the political power or the statutory authority to implement logging plans for adjacent national forest lands. Moreover, cooperative agreements between the NPS and the USFS near Bandelier have been ineffective in altering USFS logging practices.

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40. Craig Allen, "Changes in the Landscape of the Jemez Mountains, New Mexico" (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 163.

CHAPTER VI

A TIMBER SALE ON BANDELIER'S BOUNDARY

> You imply that the Los Utes timber sale was conducted on land that has a special significance based on its proximity to Bandelier National Monument. We feel that all National Forest System lands have a special significance and do not intentionally treat any lands in an environmentally calloused fashion.[1]

In the summer of 1989 while researching this thesis, I found the National Park Service and the Forest Service in a deepening conflict over a timber sale which had recently occured near the boundary of Bandelier National Monument. It almost seemed as if the conflict had been staged and timed for the benefit of my academic research.

I have focused on this timber sale because it provides a clear example of the national problems with management of public lands near parks in terms of the conduct of the National Park Service and the Forest Service. The actions of the Forest Service in particular reveal a great deal about the way both agencies interact. In this case, the

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1. Letter from Ski Melanowski to the Author, office of the Forest Supervisor, Santa Fe National Forest, August 23, 1989, p. 2.

Forest Service was asked by the public and the NPS to manage its lands in consideration of ecosystem wide values. The Forest Service fell well short of meeting the expressed needs of the public and the NPS.

The Los Utes timber sale is fairly typical of those conducted in the southern Rocky Mountains. In some respects the conduct of local Forest Service officials may not be typical of the conduct of other Forest Service workers with similar concerns in Forests like those around Yellowstone National Park.

The United States Forest Service has had a less than harmonious relationship with the National Park Service at Bandelier since the National Park Service took over Bandelier from the Forest Service in 1932.[2] Rivalry between the bureaus is not unique to the Pajarito Plateau. Nationally the historical conflict between these agencies is well known and is a manifestation of a philosophical conflict in American culture between values of preservation and utilitarian exploitation of natural areas.

The National Park Service at Bandelier and elsewhere is at a political and budgetary disadvantage relative to the Forest Service. Nationally, the Forest Service enjoys

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2. See generally, Hal Rothman's *Bandelier National Monument, An Administrative History*, (Santa Fe: Southwest Cultural Resources Center, 1989), Professional Paper no. 14, p.72.

considerably more political power than the National Park Service for two reasons. First, the Forest Service's view of land management reflects the "dominant paradigm" within our culture which holds that natural resources are present on earth for human use. Second, the timber industry, mining interests, ski facility operators, electric utilities, and heavy machinery companies, all constitute a voting, campaign contributing, and lobbying constituency in support of Forest Service resource extraction activities. Further, these interests have much in common culturally with the bureaucratic culture of the Forest Service itself.

The National Park Service has a very different position in the American political and cultural arena. Preservationist views (as opposed to conservationist sentiment) in America are a minority conviction by most accounts.[3] And aside from the concessionaires who maintain lodging, curio shops, and restaurants in the parks, the NPS lacks an industry constituency. The NPS has *only* the general public as its political constituency and though a vast number of people support park preservation, only a small percentage of the public is effectively involved in

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3. Rodrick Nash, *Wilderness and the American Mind* 3rd ed. (New Haven, Conn: Yale University Press, 1989), p. 341.

national park politics either nationally or locally.[4] Few if any political action committees focus on park issues, fund political campaigns, or seek to gain influence over national park service policy in the same way that industry PACs go to bat for the Forest Service.

The National Park Service is relatively small compared to the Forest Service, both in number of employees and in acres managed. While the Forest Service manages 497 million acres of land, the National Park Service manages only 79 million acres nationwide.[5]

These factors put the National Park Service at considerable political disadvantage when dealing with the Forest Service. The laws governing public lands also do little to facilitate an assertive position on the part of the NPS with regards to its fellow federal agencies, particularly the Forest Service.

While this inter-agency rivalry may have been a matter of only academic concern in the past, the Park Service's disadvantaged political position is beginning to have serious ramifications for the physical and biological health of the national parks and monuments. As an island in the

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4. In 1989 Bandelier National Monument hosted almost 300,000 visitors. A local organization called "Friends of Bandelier" has a membership of around 3,000.
5. *The National Parks Index 1985*. (Washington D.C.:National Parks and Conservation Association).

Santa Fe National Forest, Bandelier is beginning to be scared biologically and aesthetically by its political disadvantage relative to the Forest Service. Not only is its budget such that it is unable to carry out public information campaigns; the park is unable to fund adequate water quality monitoring programs, visual management programs, or devote staff time to influencing Forest Service behavior.

Over the last decade the Forest Service has carried out an aggressive logging program on the perimeter of Bandelier National Monument. This logging program has occurred despite the presence of the national monument, its watersheds, wildlife, or related archaeological sites which lie on Forest Service lands.

The Santa Fe National Forest and Bandelier National Monument have often carried out natural resource management programs at cross purposes. For example, the National Park Service at Bandelier, consistent with other park areas such as Grand Canyon National Park, has been eliminating feral burros from the wilderness area of Bandelier since the early 1960s. These animals were introduced to the area by early settlers and spread to remote areas where they became wild. The NPS has managed them as damaging exotics, species alien and damaging to the native elements of the local ecology

such as soils, plant communities, and archaeological sites.[6] Further, burros compete with deer and elk for habitat and destroy watering holes important to the endangered Rio Grande Turkey.[7]

While the Park Service has carried out a controversial program of destroying burros in Bandelier, the Forest Service has been managing the burros on its side of the Boundary fences as historic artifacts[8]. The burros regularly damage sections of boundary fence (built at NPS expense) and reinvade the monument.

While the two agencies' approaches to the burro problem is indicative of their varying levels of interest in ecology per se, the agencies approaches to maintaining plant, watershed, and wildlife habitat quality varies in relation to other land management programs as well. The willingness of the Forest Service to log on the boundaries of Bandelier National Monument and to permit significant damage to the headwater watersheds of Bandelier's major canyon systems

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6. Hal Rothman, *Bandelier National Monument, An Administrative History*, (Santa Fe: Southwest Cultural Resources Center, 1989), Professional Paper no. 14, p. 116.
7. Thomas Ribe, "Report on the status of the Merriman's Turkey in Bandelier National Monument," Bandelier National Monument Resources Management Files. 1980.
8. The Forest Service enjoys some statutory support for its efforts to maintain wild burro herds in the Dome Wilderness Area region. The Wild, Free-roaming Horses and Burros Act of 1971 (16 USCA sections 1331-40) was passed to protect these animals on BLM and Forest Service lands as cultural artifacts and objects of human sentimental concern.

provides further indication of vastly different views of land management priorities and of ecological values.

In 1981, six years before the Santa Fe Forest Plan was issued, the Forest Service laid out logging sales in the last remote roadless lands bordering Bandelier, the Capulin Canyon area near Bandelier's southwestern boundary.[9] These sales were mapped, marked, and approved at a time when local conservationists were relatively disorganized. But in the nine years that it took the Forest Service to complete the sales, the environmental community in northern New Mexico became more organized, the Forest Service logging programs became a major issue nationally, and the staff at Bandelier became more visible in the press with its concerns about land management issues on public and private lands near the park.

The Los Utes Timber Sale

In 1989 the Forest Service and its contractor, Bates Lumber Company of Albuquerque, carried out a logging operation in upper Capulin Canyon called the "Los Utes

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9. U.S.D.A. Forest Service, Santa Fe National Forest *Environmental Assessment for the Dome Area Timber Harvest and Cultural Treatment, Sandoval County, New Mexico* (Santa Fe, NM. April 3, 1981).

timber sale."[10] This sale has caused a considerable outcry from environmentalists and has presented the Forest Service with a large legal and public relations problem. The legal and historical dimensions of the Los Utes timber sale provide an example of the political and geographic problems facing national parks generally in their efforts to carry out ecosystem or regionally based land stewardship programs in concert with neighboring agencies.

The conduct of this timber sale raises legal questions from a purely forest management point of view, but it also raises questions related to park/forest interactions and decision making. Overall, the history of the Los Utes timber sale reveals how weak the laws are which require interagency cooperation. At times, those responsible for the Santa Fe National Forest seem unaware of the existence of laws which mandate interagency cooperation.

Capulin Canyon

The Jemez Mountains possess unusual landscape qualities. The Jemez is a complex and varied landscape with great variations in geographic influence. From low sage deserts,

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10. The timber sale is named for Los Utes Spring which emulates from the earth at the convergence of one of Capulin Canyon's forks with the main canyon.

through pinon/juniper woodlands which blend into ponderosa pine forests which blend into mixed conifer, these mountains are cut with spectacularly deep canyons. The high country is characterized by relatively rare montane grasslands.

This is a land of miniature landscapes as well. Each canyon is different in its features and peculiar blendings of plants and geologic formations. The cultural sites which dot the area add a dimension of interest and a sense of history that is unusual outside of established national parks.

The Los Utes timber sale was carried out on the floor, slopes, and ridgetops above the headwaters of Capulin Canyon, one of the major canyons that cuts through Bandelier National Monument's almost 30,000 acre reserve (see map). The timber sale was carried out three miles from the Bandelier boundary. Capulin has a perennial stream beginning a mile or two into the monument and it contains numerous prehistoric cultural sites including the famous Painted Cave closer to the Rio Grande River end of the canyon.

The Los Utes Springs area of Capulin Canyon lies in the lower end of the mixed conifer zone at about 8,000 feet in elevation.[11] The canyon bottom is open with meadowlands

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11. United States Geological Survey Map: Frejoles Canyon Quadrangle.

between the forested slopes and the stream bed which is lined with alder, willow, cottonwood, and aspen. The south facing slopes are forested primarily with ponderosa pine and douglas fir while the north facing slope is predominantly douglas fir, white fir, aspen and limber pine.

On the ridge to the south and west of Capulin Canyon, Saint Peter's Dome road passes on its way to the St. Peter's Dome Fire Lookout tower and ultimately toward Cochiti Reservoir. A side road (FR 289) left from logging in the 1930s passed from this main road down into Capulin Canyon. This road was improved to facilitate logging in 1989.

Generally, the upper Capulin area is remote land, cloaked with ponderosa pine forest with little undergrowth. The mesas finger out between the large canyons. As in most of the rest of the Jemez Mountain range, remains of early Pueblo culture settlements can be found. Field houses-- small huts which were built with the native tuff stone-- can be found in the forest. Larger Pueblo ruins of two or more rooms can be found on the mesas. Throughout the area, scatterings of broken pottery and chips of obsidian remaining from projectile crafting can be found. This region of the Jemez is rich in large and small pieces of pure black obsidian which resulted from the eruption of the Jemez volcano about 1.4 million years ago.

This area of the Bandelier region was largely spared by the La Mesa forest fire, which reduced most of the ponderosa pine forests of Bandelier to grassland in 1977. Many similar areas within Bandelier were radically altered by that fire.

For many decades, the Capulin Canyon area has been the heart of one of the most wild areas of the eastern Jemez. The Pueblo people have used this area for thousands of years and early Hispanic settlers drove sheep in the area and hunted. When Los Alamos was built in the 1940s, the area was used by many local residents for hiking and camping. Capulin Canyon has a mystique about it, a sense of wildness overlain with a sense of the Pueblo people who lived here before. The cliffs of red tuff with meadows and aspen groves lend the area a grandeur and gentleness which is somewhat unique to the Jemez range.

Damage from Logging

The Los Utes timber sale involved building several hundred yards of new road, and the felling of large ponderosa pine and douglas fir trees. Trees were cut on steep slopes exceeding 40% and skid trails were cut perpendicular to the slope contours. A road was built

through the Capulin Creek stream bed without culverts in several locations. The road and the stream bed are one and the same for hundreds of yards. Many of the meadows in the sale area were pulverized with tire tracks, and logging slash has been pushed into the stream bed in many places.

The aesthetic damage to the area has been profound. Heavy machinery had crushed groves of aspen that grew below the tuff spires and cliffs on the north side of the canyon. Everywhere debris and bare, eroding soil replaced the grasslands and forest that had been in this canyon where an old but well used trail had passed from Bandelier to the Jemez high country.

The Environmental Analysis for the Dome Area timber sales stated that only .5 miles of new road would be built for several timber sales. According to the Audubon Society and the Sierra Club, 1.4 miles of new road were built on the Los Utes sale alone.[12] Many miles of these roads were built on steep slopes or in the Capulin creekbed. By fall of 1989 the National Park Service reported that heavy rains had caused a "slump" of a road embankment into Capulin Creek and that the Creek was muddy downstream.

After the Forest Service and its logging contractor were finished in the Capulin Canyon area, they "closed" the road.

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12. Letter of October 31, 1989 from Tom Jervis to myself.

This involved building a mound in the road, closing a pipe gate across it, and reseeding it with grass seed. Visitors to the area reported motorcycle and truck tracks around the gate, motorcycle tracks up the steep skid trails on the canyon sides, and continued sedimentation of the creek. Resources Management staff noted elevated sediment levels in Bandelier waters on November 11, 1989.[13]

The National Park Service expressed grave concerns about the loss of down wood and standing snags in the Los Utes and other areas of the Bandelier Ecosystem.[14] The Forest Service opens a logged area to the public to gather logging slash for firewood after a timber sale. The Forest Service is required (by provisions of the Forest Plan) to mark standing snags for retention in order to preserve cavity nesting birds such as woodpeckers and owls.[15] But according to the Audubon Society, the Los Utes area had not been marked to preserve standing dead trees and in fact many were taken by wood gatherers.

The loss of standing dead snags in the forest along with large dead trees lieing on the forest floor can

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13. NPS precipitation records show 1989 had lower than normal rainfall. In spite of this, sedimentation in the creek, more than a mile downstream from the logging roads was evident to park staff.
14. Personal communication with Bandelier staff, fall of 1989.
15. U.S.D.A. Forest Service, *Santa Fe National Forest Plan* Management Direction R description, p. 165.

seriously disrupt the forest ecology. Not only are bird populations deprived of habitat; numerous species important for decomposing wood lose habitat when logs are removed from the forest floor, including the endangered Jemez Mountain Salamander.[16] The extensive road network the Forest Service has built to facilitate logging provides access to much of the Forest for wood cutters. Infrequent Forest Service patrols insure that few snag poachers will be caught.

Public and NPS Response to the Los Utes Sale

In the Los Utes case, as in many other legal and political conflicts nationally, the National Park Service's interests were reiterated by citizen groups more forcefully than the by the NPS itself.[17] The NPS commented on the original 1980 proposal to log the Dome Area within the NEPA process, along with other citizens and groups in the area. Both the Bandelier staff and the Southwestern Regional office of the National Park Service responded to the Forest Service proposal with several letters and an itemized

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16. Cynthia A. Ramotnik and Norman J. Scott, Jr. "Habitat Requirements of New Mexico's Endangered Salamanders" (Paper presented at symposium, Management of Amphibians, Reptiles and Small Mammals in North America), Flagstaff, Arizona, July 19, 1988.p.54.
17. Joseph L. Sax et al., *Our Common Lands*, (Washington D.C.: Island Press 1989). p. 185.

comment sheet on the draft EA. But apparently no effort was made on the part of the NPS to establish a working group with the Forest Service, establish logging monitoring, or use legal powers to discourage logging in this wild area on the park boundary.[18] The NPS seems more trusting of the Forest Service than much of the public; political considerations may constrain a more agressive stance by the NPS.

Initially, the Forest Service sent a District level group to the park to present the EA for the proposed series of timber sales in the Dome Area, including the Los Utes. The meeting occured after the Associate Regional Director for Planning and Cultural Resources for the Southwest Region, National Park Service, sent a letter highlighting NPS concerns about timber sales contiguous to Bandelier.[19]

NPS comments emphasized the proximity of the Bandelier Wilderness area to the proposed timber sale, the potential for water pollution if logging occurred near Capulin Creek, and the potential pollution problems if herbicides were used on the sale area. The NPS also criticized the Forest Service EA for failing to take into account the designated

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18. U.S.D.I. National Park Service, Bandelier National Monument. Memo number Y34 from Bandelier Superintendent John Hunter to Tesuque District Ranger George Alter, June 26, 1980 (Bandelier Library Files).
19. U.S.D.I.N.P.S. Memo L7619(SWR)PE, June 19, 1980.

historic trail originating in Bandelier, the aesthetic impact of logging scars, and the impacts of logging and road building on prehistoric artifacts and structures in the area. The NPS also criticized the Forest Service for proposing too narrow a range of alternatives in its environmental assessment.

Remarkable, the EA focuses almost entirely on recreation and visual qualities of Forest Service lands, with little or no sense of the connectedness of Bandelier to this area.[20] The Forest Service discusses the impacts of the logging on people who would come to the area with vehicles. Nowhere do they mention the hundreds of people who pass through the area on hikes origninating in Bandelier. This is yet another example of Forest Service reluctance to consider matters outside thier formal boundaries.

Other parties were also working to have the Forest Service moderate or cancel logging plans for this critical area in one of the wildest parts of the Bandelier ecosystem.[21] Most notably, the National Parks and Conservation Association (NPCA) based in Washington D.C. wrote to the Chief of the Forest Service expressing grave

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20. "Decision Notice and Finding of No Significant Impact," Dome Timber Sale USFS 1981, p. 8.
21. According to the Forest Service, the Los Utes area of Capulin Canyon had been logged 30 years ago.

concerns about the logging plans.[22] These communications covered the NPCA and the NPS's concern about water quality impacts from siltation, as well as impacts of ground disturbances on the historic Rabbit Mountain trail that passes through the Los Utes Springs area. Further, the NPCA stated concerns about the archaeological sites in Capulin Canyon, visual qualities, and road damage to the ecosystem.

The Forest Service sent a detailed reply to Prichard that was similar in content and language to the letters the local Forest Service offices sent to the NPS at Bandelier.[23] They assured him that the archaeological sites in the area would be protected according to the provisions of the Antiquities Act[24] and that the historic trail through the area would be kept clear of logging debris and would be open to the public throughout the logging operation. The Forest Service maintained that no slopes greater than 40% would be logged and that the soils were such that little danger of erosion existed.[25] Also, the Forest Service assured the NPCA and the NPS that roads crossing the streambed would be

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22. Letter of Paul Prichard NPCA to R. Max Peterson, Chief of the U.S. Forest Service June 24, 1981. Apparently this letter was followed by a meeting between the NPCA's regional director Russ Butcher and a member of the Chief's staff on May 6, 1981.
23. Letter number 2430 from S.B. Hilmon, office of the Chief to Paul Prichard, May 7, 1981.
24. 16 U.S.C.A. sec. 431-433.
25. This was stated in the EA and Decision Notice as well.

constructed with culverts and that meadows in the area would be protected from machinery.

Similar concerns were expressed by the Pajarito Archaeological Research Project (PARP)and the University of California at Los Angeles Department of Anthropology.[26] These researchers were concerned about the "unique archaeological resources in the area, "especially lithic scatters--remains of tool manufacture by prehistoric peoples.[27] PARP was conducting research toward dating and cataloguing these artifacts. They suggested that logging activity would destroy the scientific value of the remains for all time.

All of these letters to the Forest Service emphasize, by implication, the historical inadequacy of Bandelier's boundaries. Major archaeological sites (Pueblo ruins), lithic scatters, watershed headwaters, historic trails, and visually important geological formations[28] important to the Bandelier archaeological and ecological complex remain

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26. Letter from Glenn S. Russell of PARP and James N. Hill of UCLA, July 17, 1980.
27. The Dome Area includes a feature called "Obsidian Ridge" which is covered with large and small pieces of extremely pure black obsidian, a kind of volcanic glass. This material was used for making projectile points and was traded from the Jemez all over North America by Aboriginal peoples.
28. In its Draft EA, the Forest Service noted that "the Dome Unit is some of the most scenic land on the Forest."

within the jurisdiction of the Forest Service, whose concerns in this case were directed elsewhere.

Forest Service Response to Public and NPS Concerns

The Forest Service responded to the National Park Service's concerns with an itemized list of explanations prepared by their Watershed Section and the Soils Section.[29] These responses were to specific management concerns relating to forestry technique and soil management. The Forest Service explaned their intentions but did not offer to modify them to accommodate the NPS concerns. The Forest Service did admit to errors in soil mapping, but did not revise its plans. The tone of the Forest Service letter was defensive and unresponsive to the effort the NPS was making to have the Forest Service scale back its logging plans for the area in defference to environmental values.

Later, in their Final EA for the Dome Area sales, the Forest Service dropped a "buffer zone" along Capulin Creek that had been included in the Draft EA. This buffer zone would have helped maintain water quality and quantity in Bandelier. The USFS decision to delete the zone was directly

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29. Undated memos sent from Tesuque District to Bandelier National Monument, summer 1981. From the Bandelier Library files.

contrary to the expressed wishes of the NPS.[30] However, if the buffer zone had been established, much of the Los Utes timber sale would have been inaccessible to loggers.[31] The NPS argued that a building road near the streambed would threaten the health of the downstream ecosystem.

All told, efforts by the NPS to have the Forest Service acknowledge the recreational, ecological, and aesthetic relationship of the Los Utes logging "unit" to Bandelier National Monument had little impact on the Forest Service's 1981 "Decision Notice". Efforts by researchers and environmentalists to have special consideration given to non-timber qualities seemed to have little effect on Forest Service planning or timber sale execution.

The Aftermath

Letters from numerous environmental activists including two Sierra Club leaders from Santa Fe, the leader of Sangre de Cristo Audubon, and various small group leaders were sent to Forest Service offices after the Los Utes sale was

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30. "Draft EA for Dome Timber Sales," p. 17 line NN. Also "Decision Notice and FONSI" p. 13.
31. Leaving a zone to protect riparian vegetation is standard practice for the Forest Service nationally and is supported by forestwide provisions of the Santa Fe Forest Plan.

completed in the summer of 1989.[32] The Forest Service response progressed from the district ranger to the regional forester.

The *Los Alamos Monitor* and the *Santa Fe New Mexican* ran articles about the Los Utes controversy during the months that have passed since the sale was completed.[33] These articles were highly critical of the Forest Service.

Activists concerned with aesthetic and ecological damage soon uncovered breaches of contract between the logging contractor and the Forest Service and violations of the National Environmental Policy Act and the National Forest Management Act by the Forest Service. The National Park Service and the State Environmental Improvement Division complained to the Forest Service about damage to the Capulin Creek and possible violations of the Clean Water Act.

The Los Utes timber sale dispute is complex and involves issues relating to Bandelier National Monument and to Forest Service bylaws and contract management. In general, citizens allege that the Forest Service violated the National Environmental Policy Act by not complying with the exact constraints of the Environmental Analysis for the

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32. Letters were sent to the District, Forest and Regional offices.
33. "Forest Service Probes Logging Damage," *The Santa Fe New Mexican*, 18 March 1990, p. A1.
"Scars From Logging Mar Forest Service," *Los Alamos Monitor* March 1990, p. 8.

timber sale.[34] Further, the Environmental Analysis is obsolete in as much as it does not comply with specific guidlines of the Santa Fe National Forest Plan.[35]

While many of these issues implicate the competence of the Santa Fe National Forest staff and the quality of their supervision, the conduct of the timber sale in general reveals the low priority the Forest Service places on its shared public trust responsibility to maintain wilderness areas, archaeological features, and National Park Service lands. Overall, the Los Utes timber sale reveals an ignorace of, or disregard for, the law. Such misinterpretation of Congressional intent by the Forest Service may be common to other Forest Service organizations throughout the nation.

A letter from local Sierra Club Chairman Ken Cassutt to Regional Forester Dave Jolly summed up the Los Utes controversy:

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34 NEPA is viewed by most legal experts as a purely procedural law with no bearing on the actual execution of a project.

35. The Forest Plan contains specific environmental protection requirements for all activities within the national forest. These are binding by law and include directives to protect riparian zones. The Los Utes EA did not contain the same strict protection provisions since it was written several years before the forest plan was finished.

> Concern in this area of New Mexico is intensifying by leaps and bounds as to the evident priorities of local managers in their push for timber cutting. That priority now outweighs protection of archaeological sites, of wildlife habitat, of soil values, and of the future of the Santa Fe National Forest. In great part the public has lost confidence in these managers.[36]

In the winter of 1989 the Regional Office of the Forest Service appointed an interdisciplinary review team of regional division chiefs to look at the Los Utes timber sale. The review is expected to take at least six months.

The Law and Los Utes

The Forest Service may have violated both the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA) in the Los Utes case. NEPA requires agencies to take into account other relevant laws such as the Endangered Species Act and the Clean Water Act, which will be discussed further in the next chapter.

Since 1969, each Forest Service logging proposal has been subject to environmental review under NEPA.[37] Starting in 1976, the National Forest Management Act placed all logging plans under a broad level of NEPA review. Each Forest Plan is covered by a broad environmental impact statement (EIS) for logging and other activities in the

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36. Letter from Ken Cassutt to Dave Jolly, January 6, 1990.
37. 42 U.S.C. sec. 102.

various areas of the national forest.[38] The Environmental Impact Statement accompaning the Forest Plan is then supplemented by EAs or EISs which relate to specific timber sales or groups of timber sales. NFMA requires that the individual EAs for timber sales be written to comply with the Forest Plan for each national forest.

The Santa Fe National Forest planned a series of timber sales for the "Dome Area" south and west of Bandelier well before the Santa Fe Forest Plan was issued in 1987. These sales were laid out in 1984, and though 7783 acres were to be "managed," an environmental assessment for all the sales was issued with a Finding of No Significant Impact (FONSI) in 1981.[39] The timber sale boundaries were laid out at that time.

Preparing an environmental assessment for a project does not include a highly publicized and visible public comment period or public hearings. During an environmental assessment of a timber sale, individuals who have expressed

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38. Ann A. Loose, "Forest Plan Appeal Decisions: Guides to the Future of the U.S. Forest Service" Western Wildlands 15 (Winter 1990): 3.

39. At the time the Dome Area timber sales were approved, the land around Bandelier was in the Tesuque Ranger District which was headquartered in Santa Fe. However, during the next decade, the Tesuque District was eliminated and its lands were absorbed by other districts on the forest. The Jemez District which had a reputation for aggressive management in favor of timber cutting, took over the lands around Bandelier.

interest in logging will be sent notices that the Forest Service intends to offer a new sale or series of timber sales in an area. The public is invited to comment, but no compendium of comments is published. Unless the press publishes information on the Forest Service project, there is little if any public notice of the environmental assessment process.[40] The Forest Service and other agencies often avoid writing full EISs by breaking projects into smaller projects or by claiming that a project is routine.[41] Writing an EIS is costly, highly visible, and time consuming for an agency.[42]

The Los Utes Environmental Assessment

Perhaps because of pressure to produce an annual quota of wood volume for sale, the Santa Fe National Forest Supervisor ordered the Jemez District to log the Los Utes

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40. Increasingly, the Santa Fe National Forest has shied away from producing environmental impact statements for their projects, perhaps because of the cost and the level of controversy that results. Thus if falls on the activist organizations to publicize Forest Service projects in hopes the public will take notice.
41. U.S. Department of Transportation, *EA for Reconstruction of New Mexico Forest Highway 17, The Pecos River Road.* (Denver July 17, 1989).
42. NEPA provides for exemptions from environmental analysis for certain categories of routine federal activities. Agencies have expanded the sense of what is "routine" since NEPA was passed, often with objections from the legal community.

sale in 1989, reportedly over the objections of some members of the District staff who were concerned that the Los Utes sale did not conform to the Forest Plan and was thus illegal.[43] According to sources who were in a position to know, the Forest Supervisor over-rode the District recommendation that the Los Utes logging plan be brought into conformity with the Forest Plan and pressed the District to complete the sale quickly.[44]

In 1989, the Los Utes section of the Dome Area timber plan was logged, four years later than the EA for the sales had scheduled the sale. Logging began in the dead of winter when few people were present in the area. By late summer the area had been ravaged by heavy machinery and both the Forest Service and the loggers had all but abandoned the site.

The Environmental Assessment for a timber sale must comply with the provisions of the Forest Plan, and the terms of the contract between the logger and the Forest Service

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43. The Forest Plan zones the Los Utes Springs and other Bandelier western boundary country as "zone R, Cultural Resource" and wildlife protection emphasis with some timber cutting when compatible with these purposes allowed. See Santa Fe Forest Plan maps.

44. Reliable sources in the Forest Service and other federal agencies allege that the Supervisor ordered the sale to be conducted without conforming to the Forest Plan. The Forest Service officially denies that and disagreement between the District Staff and Forest Supervisor Maynard Rost occurred. See Forest Service memo no. 6270 dated October 24, 1989.

must comply with the EA.[45] In the Los Utes case, both the timber sale contract and the EA were not in compliance with the Forest Plan. The Forest Service contract oversight officer has the responsibility of enforcing the contract, which usually is written to reflect the terms of the EA and the Forest Plan. The contract oversight officer is then supervised by the District Ranger.

Specifically, the following violations of provisions of the EA occurred on the Los Utes sale according to numerous observers:

(1) The EA for Los Utes (LUEA) covered only the drainage of Capulin Canyon, allowing for 2.4 MMBF of timber cutting. In the end, 4.2 MMBF were cut on the ridge between Capulin and Cochiti Canyons and in Cochiti Canyon.

(2) The LUEA allowed no new road construction on the sale. In the end, 1.5 miles of new road were built.

(3) Roads were built and trees were cut in areas termed "inaccessible" in the EA and the Forest Plan. Logging occured on slopes greater than 40% which are protected under forestwide guidelines in the Forest Plan.[46]

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45. 16 U.S.C.A. sec. 1604 (g)(1) and (i).
46. 16 U.S.C.A. sec. 1604(3)(E)(i).

(4) The LUEA stipulated that the Capulin streamcourse be designated a "protected streamcourse" under provisions of the Forest Plan. The streamcourse was used as a road for considerable distances and crossings in other areas lacked culverts.

(5) Contrary to provisions of the NFMA and the EA, skid trails were built across the contours in areas were soils are highly erodible.[47] Many of these skid trails were cut to access timber as much as 1500 feet outside of the sale boundaries.

Legally, NEPA is a procedural act which affects only planning of federal actions. The EAs or EISs which result from the procedures it mandates have not been construed to be binding documents in terms of the conduct of the actions or projects. However, NEPA states that federal agencies shall "initiate and utilize ecological information in the planning and *development* of resource-oriented projects."[48] I would argue that "development" in this clause could include execution of the project. Thus, NEPA not only requires that an environmental assessment of the project be completed but that the project be completed in compliance with the terms of the preferred alternative in the Environmental Assessment and Decision Notice.

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47. See footnote 27
48. 42 U.S.C.A. sec. 4332 (H).

The NEPA process is most important as a public, democratic process of planning for public forest lands. The public comments through the drafting of EISs or EAs. Without this comment opportunity, the public would have no input on the day to day management of our public lands.

Likewise NEPA requires solicitation and consideration of other state and federal agencys' views on a proposed project, and incorporation of these views into the EA or EIS.[49] This clause will become increasingly important as federal and state agencies moves toward whole ecosystem management.

In the Los Utes case, both the public and other agency (NPS) views were effectively ignored in the drafting of the EA and the execution of the timber sale. These failures constitute illegal actions under the provisions of NEPA and the National Forest Management Act.[50]

The damage that occurred in Capulin Canyon to the land, cultural resources, and the biological elements is the sort of damage that NEPA was written to prevent.

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49. 42 U.S.C.A. sec. 4332 (D)(iv).
50. 16 U.S.C.A. sec. 1604(a).

The National Forest Management Act and Los Utes

In 1985, the Forest Planning process began for the Santa Fe National Forest. As required by the National Forest Management Act, the Forest Service solicited comments from the public, published maps for public review, held public meetings for public comment, and ultimately published three volumes of public statements regarding its plan along with an Environmental Impact Statement, a summary of the EIS, and the plan itself. Soon after the Santa Fe National Forest Plan was submitted, it was successfully appealed[51] and withdrawn.[52] Almost two years later the plan was submitted to the public again with final maps zoning the Forest timber program. The plan was implemented in July 1987.[53]

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51. According to the Wilderness Society, 95 of the 98 plans submitted in final form nationally have been appealed.
52. See previous chapter
53. The environmental community in northern New Mexico was extremely dissatisfied with the Forest Plan and divided about what to do about it. The more "radical" organizations such as *Save the Jemez* threw up their hands and abandon a committee which was set up among environmentalists to deal with the plan after the first version of the plan was withdrawn because of gross errors in its FORPLAN run. The committee was dominated by "old guard" Sierra Club members who were relatively comfortable with the high level of logging proposed for the Jemez since their interests were primarily on the Sangre de Cristo section of the Forest, closer to their homes in Santa Fe. The Sierra Club decided against appealing the plan a second time. The Santa Fe Forest Plan was one of the few that was "implemented" after one appeal. Five years later, the environmentalists are

The Santa Fe Forest Plan is much like forest plans for other forests in form and content. It contains more consideration of cultural resources than other forest plans because of the high number of archaeological sites in the Jemez Mountains. The plan designates the forested lands around Bandelier as "cultural resource and wildlife protection" areas with allowances for timber extraction under the conditions that these "uses" not be impaired.

Ideally, these designations seem appropriate for the Bandelier Ecosystem. Extracting timber and maintaining these other priorities is probably not realistic, given the delicacy of the soils and the slow growth of trees in the area. Also, as the public pointed out in the public comment period, logging so near the park and wilderness areas is inappropriate for biological and aesthetic reasons. Road building and logging are planned for the vast majority of non-wilderness lands on the Jemez Range. Areas with non-logging emphasis, such as those around Bandelier, are

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again faced with the Forest Plan they "approved" through their divisiveness and have taken to lawsuits on individual timber sales and political efforts to amend the plan. The current and previous efforts to establish a Jemez National Recreation Area are broad political efforts to amend the Forest Plan.

considered by the Forest Service to be concessions to public concern, though heavy logging is planned there as well.[54]

As noted above, the Forest Plan had little if any effect on the execution of the Los Utes timber sale. The Forest Service argues that there was no time to revise the EA for Los Utes to comply with the Forest Plan.[55] I would argue that the two and one half years since the final form of the plan was released is ample time for a highly controversial timber sale to be reviewed and brought into compliance with a law that has been on the books for 14 years.

The National Forest Management Act has several provisions which were written to protect federal properties adjacent to national forests from unilateral management decisions by the Forest Service. Most notable, NFMA requires that:

> the Secretary [of Agriculture] shall develop, maintain, and as appropriate, revise land and resource management plans for units of the National Forest System, coordinated with the land and resource management planning processes of State and local government and other Federal agencies.[56]

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54. The disregard of public concern at Los Utes begs the question of whether public concerns are considered by the Forest Service at all.
55. This argument was presented verbally to officials of the NPS during several meetings between Jemez District staff and Bandelier National Monument officials in the fall of 1989.
56. 16 U.S.C.A. sec. 1604(a).

This language is unusually specific and inflexible for such a statute. It is clear that the forest plan provisions must be revised so as not to be in conflict with the "processes" of land management of other federal agencies such as the National Park Service. This means that timber sale plans should be revised according to the stated interests of adjacent park or monument managers. This consultation and revision is not a discretionary matter.

The NFMA also stipulates that:

> Resource plans and permits, contracts and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans. Those resource plans and permits, contracts and other such instruments currently in existence shall be revised as soon as practicable to be made consistent with such plans. When land management plans are revised, resource plans, permits, contracts, and other instruments, when necessary shall be revised as soon as practicable.[57]

Clearly the adoption of the Forest Plan should involve "revisions" of a forest's earlier planning process as far as Congress was concerned. So, without question, the Forest Service was obligated to revise the Los Utes EA to bring it into compliance with the relevant provisions of the Forest Plan. Given the level of interest and controversy in the preparation of this timber sale, I would argue that the Forest Service could have found it "practicable" to revise

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57. 16 U.S.C.A. sec. 1604(i).

the EA within the two years between adoption of the Forest Plan and the signing of the contract.

The NFMA stipulates that "contracts" such as timber sale contracts must also comply with both NEPA and the specific provisions of NFMA. The Forest Service, through its contract officer, is obligated to insure that contracts are carried out in compliance with the law. The Forest Service failed in these duties in the Los Utes case.

NFMA also contains other specific provisions which were violated on the Los Utes sale. The Act states that forest plans will:

> insure that timber will be harvested from National Forest System lands only where . . . protection is provided for streams, streambanks, shorelines, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediments, where harvest are likely to seriously and adversely affect water conditions or fish habitat.[58]

The damages noted by the NPS and citizens to Capulin Creek violated this provision. The Forest Service argues that the stream is intermittent in upper Capulin Canyon and thus is exempt from such protection. Yet their own EA designated this creek a protected streamcourse, and the NPS specifically asked that the stream be protected in 1981.[59]

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58. 16 U.S.C.A. sec. 1604(g)(3)(E)(iii).
59. A visit to the area reveals that logging in much of the area would have been impossible without invading the streamcourse because the canyon is so narrow. Thus the Forest Service was faced with deleting much of the area from

A second similar provision protects steep slopes and soils from harm from logging.[60] This provision was arguable, violated by the steep slope logging and skidding on fragile, shallow soils.

It is difficult to understand why the contract supervisor, the Jemez District Ranger, and the Forest Supervisor failed to see that the Los Utes sale did not comply with both NEPA and NFMA. It would be possible to speculate about the personalities and priorities of those involved given a long history of confrontation and seemingly incompetent management of the Santa Fe Forest. Many citizen have become quite emotional about this issue given the unprofessional conduct of the Forest Service in dealing with Capulin Canyon, some of the most historically, archaeologically, aesthetically, and biologically important land on the entire Santa Fe National Forest.

Conclusions

Legally, both NFMA and NEPA require that two agencies whose lands border one another cooperate to some extent and consider the interests of the other when carrying out land

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logging, and losing timber volumn relative to its timber targets, or violating the streamcourse provisions of the NFMA.

60. 16 U.S.C.A. sec. 1604(g)(3)(E)(i).

management activities. The Forest Service in the Los Utes case failed to carry out its minimal duties under these laws or to acknowledge the legitimate and minimal concerns of the National Park Service in its efforts to maintain the Bandelier Wilderness according to its legal mandate.

The law provides a minimal guideline in the matter of inter-agency cooperation. Professional and civilized humans should be able to work within a more sophisticated and harmonious professional relationship than the law requires. It should be possible for the two agencies to establish a working relationship with genuine consideration of each other's needs. The meetings that occur once a year between Bandelier officials and Santa Fe National Forest officials are token and do not succeed in promoting true cooperation on the myriad issues that the two agencies must face together.

The Forest Service in the Jemez appears to have abandoned its mission as a multiple use agency. The agency seems to have taken on a role solely as a facilitator for logging enterprises, despite the fact that logging in the Jemez loses the federal treasury vast sums of money and compromises environmental quality at the same time.[61] If the

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61. The Santa Fe National Forest issued a report in March 1990 which reveals that the forest lost 1.4 million dollars in its timber operations in 1988 and 1989. This figure may not represent the true loss since the Forest Service

Forest Service had a genuine interest in recreation and land conservation, the lands around Bandelier would be the first place they would exercise such a sensibility.

In a climate in which the Forest Service's priorities seem to be skewed toward coddling the timber industry, it is doubly difficult to institute the sorts of cooperative agreements that will be necessary to preserve environmental qualities needing large, ecosystem-level mangement, such as national parks and monuments, wildlife, and watersheds.

Whether the Los Utes fiasco was a quirk or a problem unique to the Jemez District and the Santa Fe National Forest seems immaterial. Nationally, the Forest Service condones such behavior within its ranks and Congress, the public, and the National Park Service has been inneffectual in preventing this sort of tragedy.

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accounting system known as TSPIRS is under Congressional review since several economists have questioned the validity of its economic assumptions. For example TSPIRS counts purchaser road credits as receipts despite the fact that these credits are costs to the Forest Service. Thus, the Santa Fe Forest may have lost more than $2 million in 1989.

CHAPTER VII

SOLUTIONS FOR REGIONAL LAND MANAGMENT PROBLEMS

> If the western boundary of the monument could be extended far enough to include a reasonable about of summer habitat, the wildlife value of the monument would be very greatly enhanced. Probably the time is not ripe for agitating for such a change in boundary but it is something that should definitely be on the books for future action. - NPS Regional Biologist W.B. McDougall, Report to NPS Regional Director, 1940.

Our nation collectively values our national park lands as one of our most valuable trans-generational public trusts. The National Park concept has been referred to by Wallace Stegner as "the best idea we ever had." Most Americans approach national parks and monuments with a reverence usually reserved for religious structures and institutions.[1] Yet at Bandelier National Monument and elsewhere, other agencies often carry out actions which damage the national parks directly.

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1. As a former park ranger in Kings Canyon National Park, I was able to experience first hand the attitude much of the Public has toward its national parks. Both the NPS and the lands themselves are held in great awe by a large portion of the people I dealt with.

In situations such as the Los Utes timber sale, the U.S. Forest Service has managed lands adjacent to National Park Service lands with little effective regard for the value the public places on the NPS lands. In the Los Utes case, the desecration of the historic Bandelier trail past Los Utes Springs, the multiple instances of damage to the watercourse in Capulin Canyon, the slumping of road materials into that creek during rains, and damage to wildlife habitat were all impacts that the Forest Service could have anticipated and prevented. The traditional land stewardship rhetoric of the Forest Service would seem to argue against such damage whether Bandelier were nearby or not.[2]

Yet in many forest/park settings across the West, the Forest Service carries out management activities which are damaging to national park values. The Targhee National Forest in Idaho for example has been clearcutting lands that abut Yellowstone National Park in spite of the dubiousness of ecological arguments that favor clearcutting as a responsible timber management technique or a pest control method. The Targhee has proceeded in spite of widespread concern from the public and the National Park Service for

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2. David A. Clary, *Timber and the Forest Service* (Lawrence: University of Kansas Press, 1986), p. 3.

the effects of *any* sort of logging on this area, which is a critical big game wintering ground.[3]

It may be that the Forest Service believes the sorts of practices which occurred on the Los Utes timber sale are proper land stewardship. It may be that over the long run such practices, with mitigation, are compatible with the vision Forest Service officials have for the lands in their charge. And it may be that the view of National Park Service officials and environmentalists is somehow extreme in its intolerance of such practices.

Whether or not logging using controversial practices near national parks and monuments and wilderness areas is acceptable to the Forest Service, it has been a source of increasing friction between that agency, the National Park Service, and the public. All of the Forest Plans for the National Forests surrounding Yellowstone National Park have been appealed by conservationists in large part because of the logging and mineral extraction that they condone close to the park.[4]

Such disagreement and contention between the civil servants in the Forest Service and their counterparts in the

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3. U.S.D.A. Forest Service, *Targhee National Forest Land Management Plan* (1985), p. 329.
4. *Greater Yellowstone Report* 7, Journal of the Greater Yellowstone Coalition, (Winter 1990): 12.

National Park Service is expensive in terms of the paperwork it generates and the ill will that it fosters between the agencies.[5] When the public joins in such disagreements, administrative appeals or lawsuits can prove expensive for the agencies, but particularly for the concerned public, which is often prevented from litigating such matters because of the expense involved.[6]

Whether Forest Service logging near park boundaries amounts to good management from a sustainable forestry point of view or not, Congress recognized the potential for damage to public trust resources through such actions and sought to prevent with several clauses in both the National Environmental Policy Act[7] and the National Forest Management Act.[8] To date these laws have been interpreted by both agencies as being purely procedural and insubstantial, but taken in light of Congressional intent and a strict interpretation of their language, these laws lay the ground

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5. See Chapter IV supra.
6. Neither the National Forest Management Act (NFMA) or the National Environmental Policy Act (NEPA), laws likely to be used as the basis for such suits contain "citizen's suit provisions" which guarantee government reimbursement of attorney's fees if the plaintiffs prevail or have good cause to believe they will prevail. Such provisions in the Clean Water and Air Acts and the Endangered Species Act make filing suits on the basis of these laws a better financial gamble for activists.
7. 42 U.S.C.A. sec. 4321-4361.
8. 16 U.S.C.A. sec. 1600-14.

work for a more advanced and scientific basis for management planning near national parks and monuments.[9] Further, a more disciplined reading of the laws governing both the Forest Service and the Park Service, particularly those measures directed at cooperative management, could prevent the sort of reputation and resource damaging events that took place in Capulin Canyon and elsewhere near Bandelier over the last two decades.

Ecosystem Management: Framework for Cooperation

Beginning in the Yellowstone National Park Region, conservationists, many professional resource management specialists, and academics have been working to develop the concept of ecosystem management as a common goal among state and federal agencies. This concept takes into account the basic goals embodied in many relevant laws, such as the Endangered Species Act[10] and the National Environmental Policy Act. But the Ecosystem Management concept goes farther than any of these laws individually by promoting the substantive inventorying of environmental qualities on a

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9. Keitter, *Taking Account of the Ecosystem on the Public Domain: Law and Ecology in the Greater Yellowstone Region*, 60 University of Colorado Law Review 991 (1989).
10. 16 U.S.C.A. sec. 1531-1543.

regional level followed by dedicated cooperative management among agencies to preserve the functioning elements of the ecosystem in question.

Ecosystem management offers a progressive method of land management that could help the public and agencies reach their various goals in a harmonious fashion. It is appropriate to any land management agency with any mix of management priorities. Within the context of ecosystem management, agencies will be better able to carry out their exploitation or preservation activities with the certainty that these activities will not impair values that they are legally obligated to protect.

By implementing a landscape wide resources management plan, agencies would be able to protect species habitat and avoid conflicts under the Endangered Species Act.[11] By identifying habitat of sensitive species, an agency such as the Forest Service could carry out its programs without imperiling sensitive species or being drawn into litigation for not considering impacts or for violating Endangered Species Act provisions.[12]

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11. Ibid.
12. A large number of the lawsuits and administrative appeals the Forest Service faces each year question the agency's evaluation of exploitation activities on sensitive plant and animal species under NEPA. Cumulative Impact suits such as the Bonito timber sale appeal by Forest Guardians of Santa Fe, challenged the sort of single issue

Implementing an ecosystem management concept for an area requires agency managers to inventory the elements of the "ecosystems" they manage and cooperate with neighboring agencies to preserve critical elements of those ecosystems such as wildlife wintering grounds, wildlife migration corridors, watersheds, and endangered species habitat. The ecosystem management concept, if rigorously implemented, could avert crisis situations such as those requiring the listing of species as threatened or endangered or the silting of streams.

Defining an Ecosystem

Ecosystems are spatial and temporal sets of ecological elements interacting within a system.[13] Mapping an ecosystem requires an understanding of the basic life cycles of the important species in an area, such as indicator species, threatened and endangered species, or species of commercial importance. If species are missing from an ecosystem and plan to be reintroduced to reestablish the ecological

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environmental analysis which ecosystem management would seek to incorporate.

13. Darryll R. Johnson and J.K. Agee, *Ecosystem Management for Parks and Wilderness Areas*. (Seattle: University of Washington Press, 1988), p. 5.

integrity of the system, the habitat requirements of those species must be taken into account as well.

Understanding the potential for catastrophic change in an ecosystem is also important for selecting a minimum viable area to manage the various chosen biotic elements of the ecosystem. If large scale forest fires, insect outbreaks, or other pandemics are common in an area, then agencies delineating an ecosystem must take into account the effect of future catastrophes on the vulnerable species in the area. Maintaining corridors between more distant but similar ecosystems may be important to allow species to migrate to an area for genetic diversity or to replenish a decimated population.[14]

Clearly then, defining an ecosystem for an area like Bandelier requires an in depth level of understanding of the habitat requirements for the various species within the system at the various stages of their life cycles. It follows that the agencies involved must have a realistic understanding of what is necessary to maintain or create habitats in order to preserve species.

The National Park Service has been disturbed by many Forest Service activities near Bandelier over the last few decades because the NPS believed that these activities would

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14. Ibid., p. 89.

directly affect some aspect of the Bandelier environment. Based on the work of Park Ecologist Craig Allen, the Park Service has been operating with a fairly advanced scientific understanding of what constitutes the Bandelier ecosystem and has taken an increased interest in maintaining critical aspects of that ecosystem for the last half decade.[15] At the same time The Forest Service, which manages much of the land included in the Bandelier ecosystem, has not shown much interest in this approach.[16]

Dr. Allen has worked to define the parameters of the Bandelier "landscape" from an ecological point of view primarily by tracking past changes in the ecology and the landscape. Though his dissertation considers the whole Jemez Mountain range, he focused primarily on the Bandelier area. He identifies the landscape "patches" which represent small ecosystems which, taken together, form the greater

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15. Allen, Craig "Changes in the Landscape of the Jemez Mountains, New Mexico." (Ph.D. Dissertation, University of California, Berkeley, 1989), p. 30.
16. The Forest Service has a history of justifying timber cutting in ecological and social terms that are often fictional. For example, the Forest Service maintains that clearcutting "benefits wildlife" though it decimates hundreds of species in the given area and perhaps only benefits some big game animals and then only if contrasting types of habitat are available for those species nearby. In order for the ecosystem management concept to work, the Forest Service would have to abandon such quasi-truthful assessments of the effects of their logging activities and respond to rigorous analysis of their management options.

Bandelier ecosystem.[17] The ecosystem patches he worked with are areas of biogeographic activity such as aspen groves, montane grasslands, and watersheds. His work is the first that examines the historical and the scientific basis for transboundary landscape management in the Bandelier area.

Bandelier's boundaries were established primarily to encompass early Pueblo ruins in Frijoles Canyon and elsewhere in the monument.[18] These boundaries were not drawn with an understanding of landscape or ecological processes or with a sense of the intensity of resource management that would occur almost a century later.

Defining the parameters of an ecosystem is difficult at Bandelier and elsewhere. Ecosystems are systems of biochemical and biological interactions existing in time and space in an area.[19] Each area of a forest community, such as those in the Jemez Mountains, relates in some ways to adjacent forest areas in terms of long term seed dispersal and animal migration. Forests influence climate and hydrological events over broad areas as well. Hence,

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17. Allen points out that an ecosystem can be defined on various levels, from a "drop of pond water, to the whole earth."
18. See chapter III.
19. E.P. Odum, "The Strategy of Ecosystem Development" Science 164 (1969): 262.

defining an ecosystem is not as easy as defining a distinct geographic area based on landforms or cultural features.

In an area such as Bandelier, the ecology has been simplified by decades of human influence. Vertebrate diversity has been reduced over time and the inter-relationships of the animals present is simpler as a result. The parameters of the ecosystem are not as complex as they are in an area such as Yellowstone where predators like grizzly bears needing large areas of habitat and large prey species are present.

Bandelier's ecosystem can be defined in terms of important species, the relevant ecotones, large plant communities, wildlife migration routes, seasonal wildlife areas, water courses, and the complex of archaeological sites in the area.[20]

Ecosystem Management

With the exception of some of the newer parks and preserves in Alaska, all boundaries of the national parks in

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20. Though archaeological sites have little to do with "ecology," they are an important, nationally important feature of the Jemez. They were built in relation to eachother and they reveal a great deal about the past human ecology of the area.

the U.S. were drawn along economic or political lines.[21] These boundaries typically ignore watershed patterns, wildlife migration corridors, areas of like ecological activity, and other aspects of ecology. Given the reluctance of the Forest Service to give up lands to expand national parks and monuments in favor of single agency management of whole ecosystems, conservationists and resource managers are working toward inter-agency cooperation of ecosystems managed by multiple agencies.

After the agencies in question identify the critical elements of the ecosystem in question, such as game and non-game plant and animals species, wildlife birthing areas, winter ranges, summer ranges, nesting sites, watersheds, springs, and populations of endangered animals and plants, then the agencies can go about mapping the patches of such elements. The ecosystem concept requires that land managers consider all aspects of the local ecology. They must identify the non game species such as small mammals, reptiles, amphibians, and plants as well as the larger game species tht have been the traditional focus of wildlife management.

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21. Alfred Runte, *National Parks the American Experience* 2nd ed. (Lincoln: University of Nebraska Press, 1987), p.14.

After the habitats and large populations of various plants and animals are mapped, agencies must arrange cooperative management schemes for those aspects of the ecosystem that overlap jurisdictional boundaries. Even for habitats or populations which exist within the confines of one agency's boundaries or another, cooperation to insure the survival of those species or habitat types on the regional level must be achieved. Inter-agency scientific advisory boards, with competent, commercially disinterested members and public oversight could implement inter agency agreements.

Clearly such in-depth biodiversity management requires considerably more scientific expertise than federal agencies are accustomed to using in routine land management activities. The Forest Service normally hires biological consultants to develop plans or fulfill Environmental Impact Statement responsibilities, but their own staff biologists are few in number and have too minor a role in agency resource allocation decisions to fulfill the breadth of work required to implement an ecosystem management approach.

Likewise the National Park Service would have to shift staff and budget to fulfill its role in managing a park-centered regional ecosystem. Though woefully underfunded, natural resources management divisions at many parks like

Bandelier have been interested in the level of scientific understanding appropriate to ecosystem management. But NPS would need larger resources management staffs and more funding if it were to meet neighboring agencies as equal partners and fulfill its role as the natural leader in such a progressive approach to land management.

Given the history of the Forest Service and the NPS, strong impartial scientific advisory boards would be the core of successful ecosystem management programs. Scientific boards would help the Forest Service take into account considerably more elements of the environment than it does in its timber management programs. Advisory boards could help the Park Service expanding its scientific and management interests beyond its formal geographic boundaries. External advisory boards could help both of these agencies would probably overcome the institutional resistance to such an integrated approach to their functions.[22]

For the Forest Service, ecosystem management would not mean that all of its lands would become wildlife reserves to the exclusion of logging areas. Rather timber sales and

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22. While ecosystem managment could help the Forest Service moderate its land exploitation activities, it should in no way become a vehicle for opening national park lands to exploitation for resource extraction.

road building projects could be carried out with knowledge of the full importance of the area to local and regional plant and animal populations. The Forest Service would taylor its sales around the biota at hand. This would allow the Forest Service to proceed with timber sales with confidence that they would not impair the non-timber values which that agency is legally required to protect.

Ecosystem level management may require local Forest Service officials to adjust timber sale quotas according to the amount of logging the regional ecosystem can endure without serious damage. It would require "bottom up" management of the timber resource rather than blind adherence to timber sale quotas set on the national, regional, or forest level such as presently occurs. The Forest Service would need to dedicate itself to honest multiple use and sustained yield of multiple biological elements rather than adopting such priorities in name only as presently occurs throughout the agency.

Legal Basis for Ecosystem Management

A substantial body of law exists that could be invoked to compel agencies to practice coordinated, regional resources management programs. The provisions of various statutes

relevant to the management of national forests and parks and general laws such as the Endangered Species Act, when taken together, form the outlines of a common law for coordinated resources management. Through specific sections of federal environmental laws Congress sought to compel land management agencies to cooperate in environmental protection. These provisions provide the legal basis for a sophisticated system of cross-jurisdictional ecosystem management in areas like the Jemez Mountains.

First, the National Environmental Policy Act of 1969 requires that federal agencies planning major actions consult other agencies and the public while drawing up environmental impact statements.[23] For many projects such as timber sales or groups of timber sales, the Forest Service often issues an Environmental Analysis, which is a scaled down version of the Environmental Impact Statement required by NEPA. EAs require less public involvement and less study. At times, the Forest Service issues a "Categorical Exclusion" and a Finding of No Significant Impact (FONSI) which exempt the action from NEPA review because the actions, in the opinion of the Agency, lack potential for

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23. 40 C.F.R. sec. 1503 and 1505.6.

"significant impact to the human environment" or are "routine" and have been covered by other EIS documents.[24]

NEPA, however, is purely procedural in its effect and its interpretation by agencies and the courts. It compels agencies to inform each other of their environmental concerns. But, as the Los Utes timber sale history shows, NEPA does not compel an agency to consider the comments of other agencies when carrying out a project.[25] The non-binding nature of NEPA beyond the planning procedures is well known to agencies and members of the legal profession. It is one reason NEPA is diminishing in importance relative to more substantive acts which compel agencies to **carry out** projects with consideration of environmental qualities.

The Endangered Species Act is a strong act with substance and provisions for legal recourse.[26] When preparing an Environmental Impact Statement, agencies must consider and discuss the status of endangered or threatened species. The research required for an EIS also leads agencies to consult with the U.S. Fish and Wildlife Service if the project in question may jeopardize a species "listed"

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24. A FONSI is administratively appealable.
25. There is no legal recourse within NEPA for citizens or the Park Service with regards to the violations of the Los Utes Environmental Analysis.
26. 16 U.S.C.A. sec. 1531-1543.

as threatened or endangered according to the ESA.[27] The U.S. Fish and Wildlife Service has considerable authority over projects which may affect a listed species. If the USFWS concludes that an action will harm a listed species, it will issue a "jeopardy opinion" on the project, which can amount to a veto. In response to such an opinion, the initiating agency can redesign the project in question or drop it.

Within the framework of ecosystem management, the ESA is most important in its emphasis on preserving species habitat. This focus has been important in maintaining wild, biologically diverse conditions inside and outside of park boundaries. Further, the act prioritizes species protection over other aspects of a given land management agency's programs.

In the Yellowstone area, the ESA has compelled the National Park Service, the Forest Service, and the USFWS to convene the "Interagency Grizzly Bear Recovery Committee" to plan habitat protection for this animal which requires large areas of undisturbed habitat.[28] The ESA focuses on habitat

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27. 16 U.S.C.A. sec. 1533(C)(1).
28. According to the Greater Yellowstone Coalition, the Forest Service has been reluctant to place grizzly habitat protection above their plans to lease large areas for oil and gas exploration. So the Committee is confronting the same sorts of agency priorities and conflicts that are common in other contexts.

preservation for threatened or endanaged species. The Interagency Grizzly Bear Recovery Committee must also focus on habitat as a basis for preserving the grizzly. Thus the IGBRC has become a forum for ecosystem management discussion particularly since the Grizzly is at the top of the regional "food chain."

The Endangered Species Act contains a "citizens suit provision" which brings the public into the ecosystem management picture in a substantial way.[29] This provision gives a citizen standing to bring judicial action if he or she believes any of the relevant agencies is failing in its duties to enforce the intent of the Endangered Species Act. The provision also allows the court to reimburse the citizen's attorney fees in some cases.

The National Forest Management Act of 1976 revised the framework of planning for national forest management. The act set up the system of Forest Planning, which requires each national forest to produce periodic plans for management of their land base. Not only does the act call for such planning and documentation, it sets specific restrictions on logging and other activities when such

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29. 16 U.S.C.A. sec. 1540(g)(1).

activities threaten environmentally sensitive areas such as wetlands, riparian areas, or steep slopes.[30]

These environmental protection provisions, combined with sections of the act which require the Forest Service to consult with "State and local governments and other Federal agencies provide a framework for integrated scientific land management."[31] When the Forest Service draws up its management plan and revises it at decade increments, it must consult with the National Park Service and accept that agency's comments regarding potential damage to the park.

At Bandelier, the NPS made extensive comments to the Santa Fe National Forest regarding the Forest Plan in 1987. In the case of the Los Utes timber sale, these comments were specifically aimed at preventing the sort of damage to the streamcourse, the trail system, the cultural sites, the soils, and the aesthetic resources which ultimately occurred in the area.

The consultation provisions of NFMA are particularly substantial when tied to other substantive acts such as the Endangered Species Act and the Clean Water Act. These consultation agreements may act to restrict the Forest Service's discretion, but they may serve to insure

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30. 16 U.S.C.A. sec. 1604(3)(E).
31. 16 U.S.C.A. sec. 1604(a).

environmental protection while preventing expensive litigation.

The Clean Water Act requires agencies to maintain the ambient water quality standards for waterways, including streams and lakes on public lands, irrespective of conflicts water quality maintenance may have with other agency programs.[32] The CWA addresses "nonpoint source pollution" which includes suspended sediments from logging road erosion or erosion from poor logging practices.

These provisions of the CWA may have increasing importance to parks such as Bandelier, which seek to maintain fish populations and stream ecology in the face of timbering operations in the headwaters of their watersheds. The strength of its provisions should compel the Forest Service to consider water quality problems in the face of an assertive Park Service.

Aside from the provisions mentioned, there are no specific laws which require agencies to manage public lands within the context of ecosystems. But the strength of these provisions, coupled with increasing public awareness of land use conflicts, has compelled the Forest Service in the Bandelier area and elsewhere to adopt new, more

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32. 33 U.S.C.A. sec. 1323-1330.

comprehensive planning programs in an effort to lessen conflicts and avoid litigation.

Ecosystem Management Around Bandelier

If federal land managers and the public are to avoid losses of wildlife populations, loss of plant populations and declines in the quality of air, water and aesthetic values in the Bandelier area, the Bandelier ecosystem no longer can be managed without regard for transjurisdictional elements of the landscape. Boundary based conceptions of public lands must be discarded to some extent if the environmental quality of the Bandelier area is to be maintained and improved.

The Bandelier ecosystem, though inadequately identified and understood, has little relation to the boundaries of Bandelier National Monument. The western boundary of the park cuts across the middle sections of three of the major canyons that traverse the Bandelier wilderness. Only Frejoles Canyon has most of its watershed within the park boundaries. The intrusion of logged Forest Service land on Alamo Mesa diminishes the value of this holding to some extent. The headwaters of one of two major forks of the upper Frejoles are protected within the park. Importantly,

this high altitude section of the park also connects heavily used elk summer range with the lower winter range in the park.

As noted earlier, the Forest Service has heavily logged and built roads in the lands around Bandelier with the exception of the Caja del Rio section across the Rio Grande River to the East. The Caja del Rio has been maintained with consideration of its scenic value to the park.[33]

The Department of Energy, which owns the land along most of Bandelier's northern boundary has damaged the park's aesthetic qualities with the sound of explosions, with the construction of tall radio towers, and with new buildings and bright lights which are visible from the park. The DOE area closest to Bandelier is one of the most remote for the Los Alamos Laboratory, and much of the lab's most secure work has been carried out there.

Until recently, the Forest Service has operated with almost complete autonomy within its boundaries. Recently,

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33. The "Caja" is pinon-juniper scrubland with no utilitarian value except for firewood collection. The wood of pinon pine is highly valued by New Mexicans for firewood because of its fragrant smoke. Large areas of pinon juniper woodland within the Santa Fe National Forest have been ravaged by sanctioned firewood collection. Pinon is cut green though the trees may be well over a hundred years old. Given the heavy cattle grazing in such ecotypes, regeneration of pinon is problematic. A great deal of public pressure has led the Forest Service to its current viewshed maintenance of this area.

due to increasing political pressure resulting from public concern, the Forest Service has been working to reform its planning process in a way that could benefit the Bandelier environment. Further, the State government is taking an increased and highly progressive interest in the activities of the Forest Service.

As the histories of the Los Utes timber sale and the Upper Frejoles Valle timber sale road confrontation show, the National Park Service and the Forest Service have not yet established an effective working relationship with regards to the Bandelier ecosystem. The NPS has commented on Forest Service plans through NEPA proceedings and with memos, but this has not had the effect of tempering Forest Service activities in a way that is favorable to the environmental quality of the park or the region.

Recently, increasing public criticism of Forest Service activities in the Jemez, together with pressure from Bandelier staff and two New Mexico state agencies, have led to some promising developments that could set the stage for comprehensive ecosystem management in the near future. The Forest Service has adopted a "diversity unit" planning process that is applicable to all the areas of the Santa Fe National Forest.

Though the diversity unit concept seems to have no basis in any strict legal framework such as NFMA, it has become popular on Region Three forests over the last few years. The Forest Service delineates blocks of forest into a diversity unit by taking into account geographic boundaries such as aspect and watersheds and forest cover. Typically these diversity units are large. The Forest Service then establishes a planning process for the diversity unit that includes input from employees from various disciplines concerned with timber sales, including hydrologists, wildlife biologists, and other resource specialists. A "core ID team," including these individuals is established. A second planning team made up of the Forest Service staff and interested members of the public meets to consider the priorities and concerns the agency and the public has for the area in question.[34]

Such a public process has been under way for the diversity unit most relevant to Bandelier's "ecosystem" for more than a year. The Forest Service blocked out these lands bordering Bandelier's western boundary including the upper watersheds of Alamo, Capulin and Cochiti Creeks as the

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34. Jemez District memo number 1950, announcing formation of the Dome Diversity Unit planning process, Mike Morrison IDT leader, January 12, 1989.

"Dome Diversity Unit."[35] Thus the Dome Diversity Unit, including Bandelier, is effectively the Bandelier ecosystem.

The Forest Service delineates diversity units along the broadest outlines of what could be called ecosystems or ecosystem patches.[36] The "Core ID Team" for the Dome Diversity Unit includes Dr. Craig Allen Staff Ecologist for Bandelier National Monument and on occasion, the Resources Management Specialist for Bandelier.[37] Otherwise the team is dominantly timber sales staff from the Jemez District office.

The Dome Diversity Unit planning team has public members, including members of off road vehicle clubs, Jemez residents who promote mining, logging, and grazing, conservationists from Los Alamos and preservationists from Albuquerque and Santa Fe. The primary timber contractors for the Santa Fe National Forest also send representatives to the meetings on occasion.

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35. The name "Dome" comes from St. Peter's Dome, the name of one of the peaks in the San Miguel Range, a jagged desert range which borders Bandelier on the South.
36. See text at footnote 15.
37. In the winter of 1989 the Forest Service informed the NPS that Dr. Allen would no longer be welcome on the Core ID Team though he was welcome to maintain the status of "a public" on the planning team. The NPS and some members of the activist community protested and Allen was restored to his position in the core team. His ouster was a result of his strong environmental views and his ties to the environmentalist community.

While the diversity unit concept holds great promise for advancing management of the Santa Fe and other National Forests, the idea has been confused in the Jemez. The presence of a NPS resource specialist, especially one with advanced credentials such as Dr. Allen, is promising in terms of transjurisdictional ecosystem management. But until recently, the diversity unit concept has been little more than a public relations gimmick and a facade for business as usual in the Jemez. The NPS and the public had little real opportunity to affect the Forest Service plans to log virtually the entire diversity unit in the next few years.

The relationship of the diversity unit planning process to the existing Forest Plan lies in a section of the NFMA requiring public participation in Forest Service management planning.[38] In the case of the Dome Diversity Unit, the Forest Service convened its meetings, held public comment sessions, and consulted with the NPS about the direction of area management. Soon, however, it became clear that the Forest Service had already laid out timber sales in the area irrespective of both the provisions of the Forest Plan and the open public process they were offering.[39] Though they

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38. 16 U.S.C.A sec. 1612.
39. Private conversations with Audubon Society leader Tom Jervis and NPS personnel, Winter 1989.

told the public that old growth values in the Dome Area would be a high priority for biological diversity preservation, they had laid out timber sales that would have all but obliterated the old growth in the area.

Environmentalists charge that the Forest Service was planning the Bonito Diversity Unit in bad faith as well. The highly controversial Bonito timber sale, near the East Forks of the Jemez River was laid out, marked sale procedures began, before the Forest Service had completed the required Biological Assessment for the sale.[40] The biological assessment identifies rare and endangered plants and animals and evaluates ecological relationships and elements of the area and the potential impacts of federal actions on those organisms.[41]

Naturally if the Forest Service lays out a timber sale before it evaluates the biological elements present, it cannot manage the land as the biological diversity sections of the ESA require. The timber sale boundaries in both the Bonito and Dome Diversity Unit cases were not hypothetical but were in the sales "pipeline." The Bonito sale was

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40. Personal conversation with Mr. Sam Hitt of Santa Fe who has appealed the Bonito timber sale and is preparing a lawsuit focusing on the sale. Dr. Tom Jervis of the Audubon Society confirmed this charge in written communications with me during the winter of 1989.
41. 16 U.S.C.A. sec. 1536(c)(1).

appealed on serveral points, most notably its potential impact on various threatened and endangered species.

The Los Utes timber sale seems to have been the dark hour before the dawn for the Bandelier ecosystem and the Dome Diversity Unit. The amount of news coverage of the event and the number of public complaints to the Forest Service about the sale caused the Forest Supervisor to call off logging, at least for now, in the Dome Diversity Unit in March of 1990. According to sources present at the Core ID Team meeting in mid March, the District Ranger and the District Timber Staff Officer agreed to "retain" all remaining old growth in the DDU. Further, they agreed to observe the provisions of the Forest Plan with respect to the area. In light of the heavy program of logging that the area has endured over the last two decades, these concessions amounted to a foreclosing of further logging in the DDU over the next decade. The Forest Service is in the process of making more detailed agreements about road closures, ORV exclusion and restoration of forest structural diversity to the area.

Public and NPS pressure on the Forest Service may have resulted in the beginnings of true ecosystem management for the Bandelier boundary country. The Forest Service places its main emphasis on timber harvest, but outside pressure

may have convinced the Forest Service to assess the ecology of a diversity unit before planning timber extraction programs which would have a significant impact on the biology of the area.

The State of New Mexico has taken an increasingly active role in Forest Service activities in the Jemez within the last year. The New Mexico Health and Environment Department has increased its scrutiny of Forest Service impacts on water quality under authority of the federal Clean Water Act. The New Mexico Game and Fish Department (NMGFD) has recently stepped into the Forest Service logging controversy with an ecosystem management based directive to the Forest Service. It can do this because the State has jurisdiction over non-endangered wildlife on federal lands according to a detailed legal history originating within the Commerce Clause of the U.S. Constitution.[42]

The NMGFD report to the Forest Service states that:

> the Department's emphasis will be toward maximum species diversity with exceptions of individual species determined on a site specific basis. Assessing short and cumulative long-term impacts to wildlife and their habitat, especially by large-scale projects which change entire ecosystems such as timber harvesting

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42. George Coggins and C.F. Wilkinson, *Federal Public Land and Resources Law*, (New York: Foundation Press, 1987), p. 779.

> requires a significant amount of information about the site and the surrounding area.[43]

The state interest here, coupled with the federal Endangered Species Act, has the legal power to shift the current Forest Service single use management toward true multiple use management with an ecosystem approach at its core.

The NMGFD places great importance on the gathering of basic information about habitats and wildlife populations in its directive to the Forest Service. This is consistent with the Biological Assessment provisions of the ESA and of the biological diversity requirements of the NFMA. Further, a rigorous, scientific, unbiased approach to assessing the geography of ecosystems forms the core of genuine ecosystem management. The State report may help the Forest Service to understand this basic fact.

Impediments to Ecosystem Management

The Forest Service shift to "diversity unit" management on the Santa Fe National Forest is a hopeful sign that the agency is beginning to take a genuine interest in biological diversity and the long term economic potential on the

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43. "Timber Harvest Issues" New Mexico Department of Game and Fish, April 18, 1990.

forest. History in the Bandelier region has show that without continued pressure from the other agencies and from an educated and vigilant public, the Forest Service is unlikely to take more than token measures to protect ecosystem values and biological diversity on the Santa Fe National Forest.

There is no question that Congress intends the Forest Service to maintain diverse and healthy ecosystems on the national forests.[44] But the Forest Service consistently has worked to maintain a high level of "discretion" in the face of the plethora of provisions directing the agency to take other values into account when planning timber cutting programs. The courts have been reluctant to substitute the opinion of agency outsiders for that of the Forest Service in many cases, and the courts are reluctant to impinge on the expertise of the Forest Service or to limit the agency's discretion.[45]

Recently, it has become clear that the forests of the Yellowstone region regard provisions of the National Forest Management Act that require consultation with other agencies, as "procedural" provisions. These forests have concluded that the NFMA consultation provisions are like

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44. See text accompanying footnotes 24-29 and chapter I.
45. Keiter, *Taking Account of the Ecosystem on the Public Domain*. 60 University of Colorado Law Review 993.

those in NEPA which require no particular outcome from consultations with other agencies.[46] Further, the Chief of the Forest Service has argued in response to an appeal that Forest Plans produced under NFMA are merely advisory documents and are not binding on the agency.[47]

Yet the environmental protection provisions of NFMA are soft and relatively minimal. If the Forest Service shrinks from these soft provisions, they surely must have a program which is contrary to environmental protection concerns. In the Los Utes case, the Forest Service did not consider the NFMA Forest Plan environmental protection constraints on its logging operations to be binding on its actual work in the forest.

Why does the Forest Service work so hard to maintain its discretion and maintain a high level of logging activity even when these activities threaten other multiple use resources? The answer to this troubling question lies at the heart of all environmental concerns about the national forests. Without realistically addressing the primary motivations of Forest Service activities, there is little

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46. Ibid., p. 994
47. U.S.D.A. Forest Service Chief of the Forest Service *Flathead Forest Plan Appeal Decision* (Washington D.C. August 1988).

chance that ecosystem management will ever be conscientiously implemented.

The Forest Service prioritizes timber sales over other programs for two basic reasons. First, logging and grazing are the only means the Forest Service bureaucracy has to increase its budgets. Current laws such as the Knutson Vandenberg Act,[48] the Multiple Use and Sustained Yield Act,[49] establish a budgetary system that rewards the Forest Service financially for cutting trees but not for providing recreation or preserving wildlife. Like any human organization, the Forest Service seeks to maximize its budget and increase its area of influence.[50] These laws reflect the philosophical development of the agency, which has been closely tied to the timber industry since 1905.

Not only does the budget structure favor high levels of timber harvesting and cattle grazing, but political influences in Washington have consistently set high timber targets for the Forest Service. These timber quotas work their way to the district level where "line officers" are rewarded professionally for getting the trees cut and out to

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48. 16 U.S.C. sec. 576.
49. 16 U.S.C. sec. 528-531.
50 Randal O'Toole, *Reforming the Forest Service* (Washington D.C.: Island Press, 1988), p. 211.

market even if these sales lose money for the federal treasury as they do on the Jemez District.

Further, those in power in the Forest Service share an ethical view of environmental values that differs little from that of the timber industry.[51] The organizational momentum of the agency fosters a system where employees who work hard at timber harvesting are promoted at the expense of those with preservationist views or a strong biological orientation.

Those promoting National Parks in the late 1800s and the early part of this century needed to assure the Congress that potential park lands were "worthless" for exploitive purposes before Congress would withdraw lands from the path of our nation's frontier expansion.[52] In the same political atmosphere, the Forest Service fought to justify itself as an important conservation agency before a Congress that was skeptical of the concept of Federal land ownership. The Forest Service survived politically by joining the exploitation of natural resources and by promoting its ability to supply timber for the economy.[53]

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51. Ben W. Twight and F.J. Lyden. "Measuring Forest Service Bias" *Journal of Forestry* 87 (May 1989):37
52. See chapter II.
53. David A. Clary, *Timber and the Forest Service* (Lawrence: Kansas University Press, 1986), p.199.

Thus, when the law and the courts defer important issues of biological preservation to the "discretion" of Forest Service officials, that discretion largely leads toward decisions biased in favor of timber extraction which are often contrary to the public interest and damaging to the environment. Unfortunately, both the courts and much of the public hold an outdated view, promoted by the Forest Service, that the agency has expertise in taking care of multiple, long term values on the national forests.[54]

In the face of this, those interested in preserving the biological diversity of the national forests must use the ecosystem management concept as a powerful tool for shifting the Forest Service away from single use timber management and toward forestry which sustains the whole diversity of life on our public forests. But shifting the Forest Service toward effective regional ecosystem management will require concurrent initiatives in Congress to change Forest Service budgetary incentives.

Likewise, the National Park Service must be convinced by public and Congressional involvement to assert what it has learned from its strong tradition of scientific

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54. The Forest Service has been increasingly interested in timber extraction beginning after World War II. This interest increased markedly when private timber lands were depleted of most of their timber stock in the late 1970s.

environmental management in the regional ecosystem management process. The timidity of the NPS is as institutionalized as is the timber extraction bias of the Forest Service, and this timidity will be a considerable obstacle to achieving interagency ecosystem goals near parks and wilderness areas.[55]

It may be that the NPS and the Forest Service are incapable of effectively implementing ecosystem management on their lands without considerable oversight. Involvement of the New Mexico Game and Fish department may help hasten the legal imperative of ecosystem management in the Jemez. But independent boards of conservation biologists must be enlisted in the management of both national forest and national park lands with a mandate toward facilitating ecosystem management.

Within the current Forest Service organization, specialists such as hydrologists, wildlife biologists, ecologists, and archaeologists are given little power and are often harassed and demoted for interfering with timber

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55. The increasing politicization of the NPS has not benefiting environmental initiatives by the regional and park staffs. The NPS Washington staff opposed the Redwood Park Amendments to the National Parks Organic Act (H.R. 2379, 1978) which would have expanded the influence of the NPS onto nearby lands with proven ecological ties to park lands. In the Yellowstone region, the NPS has been less than enthusiastic about asserting preservation values beyond the boundaries of Yellowstone National Park.

sale plans. In the Santa Fe National Forest, an archaeologist who alerted the agency and the public that logging was destroying early Pueblo field houses and large Pueblo ruins in the western Jemez was demoted and placed in a job unrelated to his doctoral degree.[56] As long as such breaches of the democratic process and the public trust occur within the Forest Service, there is little hope that ecosystem management or any other non-commodity based programs will succeed.

The ecosystem management concept is equally relevant to the rest of our national forest system where the endangering of species by habitat destruction threatens not only the species present but logging programs themselves. Thus ecosystem management, as a holistic approach to managing our public lands, offers the prospect of stability for the environment and for the commerical interests who can reasonably expect to extract resources from the public lands within the constraits of environmental laws.

By enacting an ecosystem management program near parks and elsewhere on the national forests, the Forest Service could restore its commitment to genuine multiple use management and lessen the level of distrust and

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56. Landon Smith "Speaking Out: An Ethical, Moral Failure," *Inner Voice*, Fall 1989 p. 4.

confrontation that the agency faces nationwide today. Further, it could set timber harvest levels that are appropriate to local conditions as various legal provisions require. More public access to land management planning and a strong system of oversight by independent conservation biologists with the power to alter plans would be essential for the success of this program.

Afterword for Bandelier

Yellowstone National Park has provided the major focus of national efforts to advance the concept of ecosystem level, scientific management of public lands. The need to preserve the grizzly bear and all the other elements of the Greater Yellowstone ecosystem is great. Most important, the irreplaceable wilderness qualities of that area must be maintained.

Yet Yellowstone is only one of many areas in the Western United States where habitat destruction from logging and other activities threaten the survival of many species and threatens to erase an ageless sense of wildness. Clearly the Bandelier region is another area worthy of the finest level of management that humans are capable of providing. At this time, the Bandelier area is suffering abuse in the

hands of the Forest Service, which seems unable to accommodate the area's unique values in its outdated, narrow land management paradigm.

For its part, the National Park Service seems to understand the problems the land and its wildlife face in the Bandelier area, but the agency is often timid in the face of better funded agencies. Clearly the Park Service needs more public involvement and support for its efforts to maintain Bandelier and its features.

Bandelier is no paltry cast-aside of the National Park System. The monument protects an array of highly unusual natural qualities and the remains of the early Pueblo people who survived within this magnificent environment for hundreds of years when most of America was wilderness. Walking in Bandelier when I was younger, I grew used to finding broken pottery, obsidian points, and remote cliffs with small caves walled with blood plaster and preserved in the dry air and silent passage of centuries. I remember finding the faint smell of old fire smoke and hearing the descendents of the Bandelier people singing from the Frejoles Canyon caves on some special summer nights.

The old Bandelier Pueblos, Tyuonyi, Yapashi, and Tsankawi are silent and in ruins now with only the quick winds in the junipers. But the likely descendents of their

people still come up from the Rio Grande Valley, from Cochiti Pueblo and carry out their secret rites at the Shrine of the Stone Lions, the Painted Cave, and other unknown places in the Bandelier backcountry.

At midnight among the tall, patient Ponderosa pines when hearing the coyotes sing from the high Jemez, I get a sense of the connections between past and present that are all around us in life. The Pueblo people have preserved their place in life for hundreds of years, generation after generation. Bandelier holds a continuity of some of their physical heritage relatively intact.

At the same time, the wild elements of the Jemez Mountains and Bandelier are of great heritage value to humans. Though the Pueblo people and their ancestors add a human dimension to this landscape, the pines and coyote, the columbine and the cholla growing in the beautiful undulations of the land carry a heritage that goes back to the beginnings of evolution. These life forms have adapted to the Jemez climate and have blended with the geology and the people in a way that is absolutely unique.

For the people from Jemez Pueblo, Zia, San Ildefonso, Santo Domingo, San Juan, and Cochiti Pueblos among others, the Jemez Mountains are sacred. They will not divulge the details of their "religion" because it goes to the roots of

their cultural identity. The Jemez with its persuasive subtlety is part of their heritage. They have begged relative newcomers to respect this land and its life and to leave their living shrines and the fallen houses of their ancestors alone. Somehow, I have a sense of what they are trying to convey. From my hundreds of hours spent in the Jemez I know that one does not need to be Indian to understand that this land is "sacred."

Others have understood this well. Mrs. Evelyn Frey came to Bandelier as a homesteader in 1925 and lived in Frejoles Canyon for more than sixty years. Those of us who knew her could feel in her manner and see in her eyes a respect for the passage of time in that quiet place. Like many northern New Mexicans of her generation, she seemed both Indian and White in her ways, and her memories were full of the cruelty and wonder of both cultures. When she passed away in 1989, much of the continuity between the old Bandelier and the new passed with her. Those of us who knew her and her times have a sense of the intercultural dignity of the old, quiet, wild Bandelier. perhaps we have an obligation to pass that heritage on to present and future generations.

It is said that in their kivas and villages, the Pueblo people assure one another that someday the Europeans will be

gone from New Mexico and they can again have full life in the landscape of northern New Mexico. Perhaps it will be that way. But in the meantime we of European descent must put our cultural arrogance aside and work past the weary paradigms of our Western culture which condone the trampling and trashing of the Jemez and other wilderness. We must bend our ears to the moan of the wind in the pines in the deep Bandelier night, learn what we can from the long heritage of the Pueblo people, and see if we can, belatedly, develop an appropriate land ethic for this place called Jemez.

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