

# **Environmental Assessment for the San Francisco Mountain/Mount Elden Mineral Withdrawal**

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE, SOUTHWESTERN REGION

COCONINO NATIONAL FOREST  
PEAKS RANGER DISTRICT

## **CHAPTER 1- Introduction, Purpose and Need, Decision to be Made**

### **A. Introduction**

Rising abruptly from the Colorado Plateau to an elevation of 12,630 feet above sea level, the San Francisco Mountain (the Mountain) is the most prominent and highest geographic feature of Arizona. The Mountain and Mount Elden are clearly visible for over a hundred miles in all directions. The Mountain is the focal point of the Flagstaff region providing the scenic backdrop and outdoor recreation opportunities that are the foundation of the area's tourism industry. The Mountain is also the cultural focal point for American Indian tribes in Northern Arizona and the Four Corners area. The Coconino National Forest recognizes the Mountain as a traditional cultural property that is likely to be eligible for inclusion on the National Register of Historic Places.

The United States Department of Agriculture Forest Service has filed a mineral withdrawal application with the Bureau of Land Management to protect the San Francisco Mountain/Mount Elden area from additional mining activities under the 1872 Mining Law. The area proposed for special protection totals approximately 73,380 acres encompassing the San Francisco Mountain, and Mount Elden on the Peaks Ranger District of the Coconino National Forest. The Secretary of Interior has the authority to make withdrawals on National Forest System lands. All federal agencies must process withdrawal requests through the Department of Interior, Bureau of Land Management (BLM).

In response to the application for withdrawal, a notice was filed and published in the Federal Register dated November 4, 1998 proposing to formally withdraw the area identified above. The notice segregates and closes the area for up to two years from entry and location under the 1872 Mining Law. This temporary segregation protects the area from new mining claims while an analysis is completed to determine the effects of a formal twenty-year withdrawal. Twenty years is the maximum time period for a withdrawal. The Federal Land Policy and Management Act (FLPMA) of 1976 requires that withdrawal decisions be revisited at least every twenty years.

After formal withdrawal, all mining activities under the 1872 Mining Law will be prohibited, except actions authorized under an approved Plan of Operations on mining claims with prior valid existing rights. In order to establish valid existing rights in the withdrawal area, a mining claim must have been staked prior to the Federal Register notice date for the withdrawal. In addition, the mining claimant must have proof that a valuable mineral had been discovered on the claim prior to the date of the Federal Register notice. It is still possible that mining could occur on existing claims within the withdrawal area, if they meet the criteria described above. As of the date of the withdrawal application, there were 51 mining claims in the proposed withdrawal area totaling approximately 5,800 acres. Most of the claims are located in the northeastern portion of the withdrawal area, surrounding the active pumice mining area and are presumably staked for pumice, or other volcanic rocks. There is one association placer claim located in the north-central part of the proposed withdrawal, on the White Horse Hills, that is staked for limestone. We do not know how many of these might have valid existing rights; rather such information would only be forthcoming from the claimant if mining of the claim were proposed. If

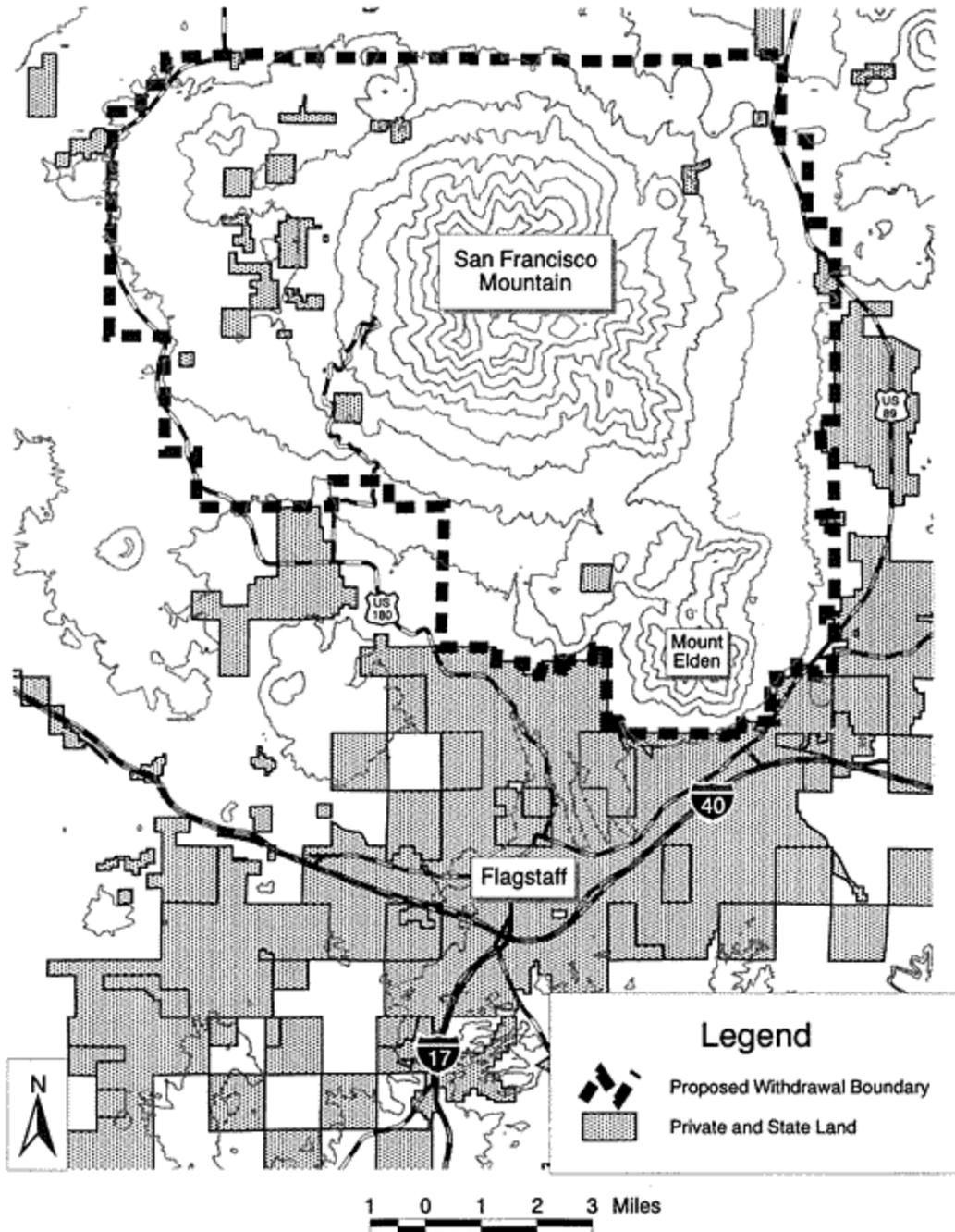
claimants who hold claims in the withdrawal area decide to propose operations pursuant to 36 CFR 228, subpart A, locatable mineral regulations, the Forest Service would conduct a validity examination on the areas to determine if there are valid existing rights.

## B. Current Situation

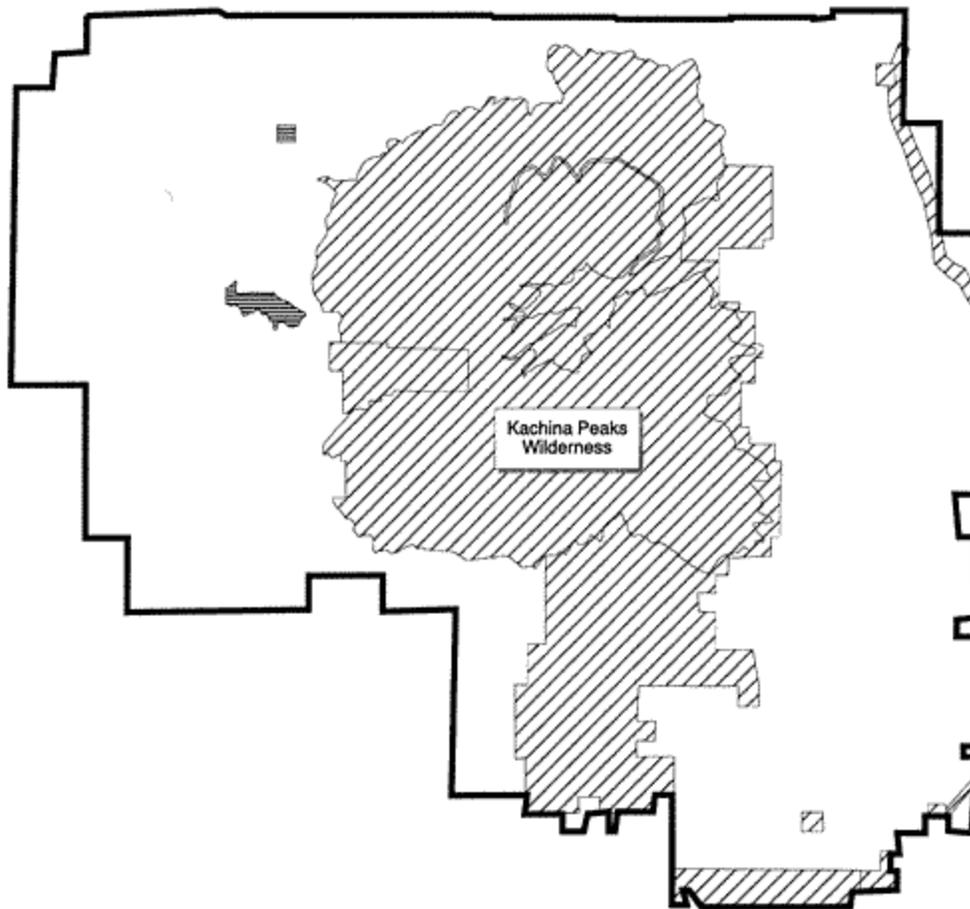
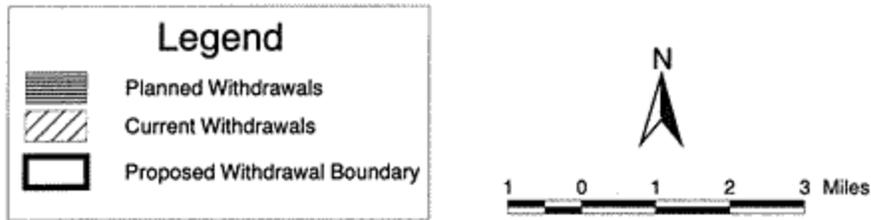
The Coconino Forest Plan (Forest Plan) contains a list of areas identified as needing mineral withdrawal. Existing withdrawals, previously completed by BLM and approved by the Secretary of Interior or accomplished through legislation, are also described in the Forest Plan. The upper elevations of the San Francisco Mountain are permanently withdrawn via legislation for the Kachina Peaks Wilderness and the Snowbowl Ski Area. There is currently a patchwork of withdrawn areas, open areas and areas listed in the Forest Plan as desirable to withdraw within the proposed withdrawal area. The list below and maps, which follow, show the area location and relationship of withdrawn and open areas.

| <b>Sites currently withdrawn</b>                       | <b>Acres</b>  |
|--|---------------|
| Elden Guard Station                                    | 111           |
| Mt. Elden Lookout Site                                 | 40            |
| Flagstaff Watershed                                    | 6,380         |
| Elden Environmental Study Area                         | 761           |
| Lockett Meadow Area                                    | 772           |
| Roadside Zones, U S Highway 89                         | 40            |
| Elden Pueblo   | 25            |
| Medicine Fort  | 48            |
| Kachina Peaks Wilderness                               | 18,705        |
| Arizona Snowbowl Ski Area                              | 777           |
| <b>Total</b>   | <b>27,659</b> |
| <b>Sites on Forest Plan list – not yet implemented</b> | <b>Acres</b>  |
| Fern Mountain Botanical Area                           | 186           |
| C Hart Merriam Base Camp                               | 40            |
| <b>Total</b>   | <b>226</b>    |

# San Francisco Mountain/Mount Elden Proposed Withdrawal Area



## Current and Planned Withdrawals within the San Francisco Mountain/Mount Elden Area



Environmental Assessment for the San Francisco Mountain/Mount Elden Mineral Withdrawal  
Map created on 4/13/00

### C. Forest Plan direction and other Community Plans

Standards and guidelines such as those for visual quality objectives, sensitive species management, and recreation management are not consistent with surface disturbance from mining activities. The Forest Plan states that, "During Forest Plan implementation it is possible that additional withdrawal candidate areas will be identified. Any such candidate will be subject to public review and FLPMA procedures."

In addition, recent local and regional planning documents have also identified the importance of protecting the

cultural, recreational and visual resources of the San Francisco Mountain/Mount Elden area. Mining activities authorized under the Mining Law of 1872 are not consistent with objectives suggested in a variety of City of Flagstaff and Coconino County planning documents, such as the *Flagstaff Area Open Spaces and Greenways Plan*, the *Flagstaff 2020 - A Vision for our Community*, or the Draft *Flagstaff Area Regional Land Use and Transportation Plan*.

#### **D. Past experiences with the 1872 mining law**

Mining activities have and are currently adversely impacting areas important to American Indian culture within the proposed withdrawal area. Surface disturbance from mining on the slopes of the Mountain also represents a long-term degradation to the visual resources unique to this area. Mining activity on the Mountain has impacted the visual quality from Sunset Crater Volcano National Monument and Highway 89. In addition, past mining activity and the resulting ground disturbance is adversely impacting visual and recreational opportunities on the east side of the Mountain and the Lockett Meadow area. The threat of continued expansion of mining operations to produce pumice has rallied the community in support of protection of the area.

Even though there is a low potential for the presence of valuable metallic minerals such as gold, silver and copper etc., this area is still at risk from surface disturbance and patenting under the 1872 Mining Law. The Mining Law of 1872 has been used in this area to gain access to minerals usually considered to be common variety (sand, gravel, cinders) and to patent National Forest land. Patenting is the process that transfers ownership of federal land to mining claimants under the Mining Law of 1872. Patenting of National Forest land in the proposed withdrawal area has resulted from rulings by Interior Board of Land Appeals administrative Law Judges that certain types of sand, gravel, cinders and pumice were locatable minerals. There are 140 acres of mining claims in the proposed withdrawal area that have been patented. All of the patented claims are located in areas of extreme environmental and cultural sensitivity. Sand, gravel, and cinders, normally not considered to be a locatable mineral, were produced from these claims. The patented mining claims are located on steep, unstable slopes and are highly visible for great distances. Most of the claims are no longer active and have been left without reclamation. In addition, mining disturbance on the patented mining claims have adversely impacted habitat for Threatened and Endangered Species, and represent to the Indian tribes with religious ties to the area, irreparable damage to the traditional cultural property.

There were two proposals that stimulated much discussion in the community and within the Forest Service about the uniqueness of the San Francisco Mountain/Mount Elden area; its cultural importance, and the need for protection. One was a proposal by Arizona Tufflite Inc. to expand pumice-mining operations on the east side of the Mountain. The other proposal, from a group of investors seeking a limestone source for scrubbers at the Navajo Generation Plant at Page, Arizona, was a plan to conduct exploratory drilling on the east side of Mount Elden and the White Horse Hills

#### **E. Purpose and Need**

Under current Forest Service policy and law, withdrawal from mineral entry is generally not necessary to supplement protection afforded by existing law and regulation. Mineral withdrawal is an important management tool, however, the action must be justified by showing that the area cannot be managed for multiple-use or protected by other means. The BLM considers the uniqueness of resource values the most significant measurement in assessing whether or not a withdrawal will be approved. When used for withdrawal justification, the BLM defines the term unique as, "A resource feature of limited occurrence, on a regional or national basis, that has unusual value for scientific or scenic purposes or as an outstanding example of natural phenomenon. Characteristics that make a feature unique are its rarity, significance, fragility and irreplaceability".

Here are the reasons why a withdrawal is appropriate for this area at this time. The following values are important and unique and cannot tolerate surface disturbance from mining: 1) the area is geologically and biologically unique; 2) the area is culturally significant; 3) there are diverse and popular recreation opportunities; 4) there are spectacular scenic experiences; 6) communities have identified the area as important to local economies and a sense of place, and 7) our experience has shown that we are unable to afford adequate protection to these values under current laws.

**Unique geology and biology:** The San Francisco Mountain/Mount Elden area contains the highest point in Arizona and is clearly visible from distances in excess of 100 miles. This type of feature is of very limited occurrence in Arizona. Rising from an elevation of 7,000 feet above sea level to over 12,000 feet the Mountain is unique in juxtaposition of several life zones and the only tundra life zone in Arizona. C. Hart Merriam used the Mountain to study and develop his theories of elevation life zones. The lands being considered for withdrawal contain suitable habitat for 18 threatened, endangered, or sensitive species.

**Unique and important American Indian Cultural Values:** The area is unique and central to American Indian religious and cultural practices, and important to the cultures of at least 13 tribes in the Southwest United States. No other area or feature can substitute for the Mountain in its role as one of the most important traditional cultural properties in the Southwest. Tribal consultations have indicated that surface disturbance from mining activities represents irreparable damage to the traditional cultural property. This area, which includes the flanks of the San Francisco Mountain and Mount Elden, has a very high archaeological site density, and is likely eligible for nomination to the National Register of Historic Places. Many of these archaeological sites have previously been determined eligible, or potentially eligible, for the National Register, including Elden Pueblo.

**Recreational Use:** The Mount Elden/Dry Lake Hills area contains an extensive recreation trail system that is linked with the Flagstaff Urban Trails System and the Arizona Trail. The San Francisco Mountain/Mt Elden areas are a summer and winter recreation destination from the Phoenix Metropolitan area and local residents. Visitors traveling to the Grand Canyon pass close to the Mountain on Highways 180 and 89. Big game and other wildlife habitat provide opportunity for hunting and wildlife viewing, both popular activities in Arizona. This area is one of the few in the State with large groves of aspen, and viewing fall colors is a major attraction. Mining disturbance is not compatible with managing and maintaining trail systems, vegetation, and wildlife habitat that have a significant role in recreation and tourism for the community.

**Scenic Vistas:** This area provides the scenic backdrop for Flagstaff and its outlying communities. Scenic vistas are enjoyed along the major highways and from vantage points along the popular Snowbowl Road. Current mining operations are clearly visible from Sunset Crater Volcano National Monument. Surface disturbance associated with mining is not compatible with the recreation and visual management direction for the area.

**Community Sense of Place:** The San Francisco Mountain/Mt Elden areas are an integral part of the community of Flagstaff's history and sense of place. Northern Arizona is referred to as the Mountain Campus. Most publications and documentaries about the community feature pictures of the Mountain, and many local businesses display the Mountain in their advertising logos. Resolutions expressing the importance of the Mountain and support for the withdrawal from Flagstaff City Council and Coconino County Board of Supervisors demonstrate the relationship and significance of this area to the community.

**Ability to manage surface disturbance:** The Forest Service's surface management regulations do not provide adequate protection from prospecting disturbance, mining operations or mineral patent. The surface management regulations have no provisions for disapproving mineral related operations or activities that are authorized under the Mining Law of 1872. Therefore, mining operations cannot be controlled by Forest Service surface management regulations and disturbance cannot be eliminated. The risk of losing a variety of public benefits provided by the San Francisco Mountain/Mount Elden area remains, if this area is left open to mineral location under the General Mining Law of 1872.

**Summary:** Maintaining the recreational, visual, wildlife, and cultural resources that the San Francisco Mountain/Mount Elden areas provide is extremely important to the local community as well as society in general. The value of the cultural, recreational and visual resources far exceeds the mineral value that the area presents. Mineral extraction is not compatible with the management direction the general public is insisting on for this area. Although many values are protected by current or planned withdrawals, important areas are not included. In addition, by consolidating areas outside of the Wilderness into one withdrawal with one 20-year timeframe to track, Forest Service and BLM efficiency is increased.

## **F. Decision To Be Made**

The Coconino National Forest Supervisor will decide, as a result of this analysis, whether or not to amend the Forest Land Management Plan by adding the San Francisco Mountain/Mount Elden Area to the list of areas needing special protection of a mineral withdrawal. The decision will also include a recommendation to the Bureau of Land Management to act on the Forest Service's application to formally withdraw the area for twenty years.

# **CHAPTER II - Alternatives**

## **A. Summary of Alternative Development**

Following publication of the Federal Register Notice of the withdrawal application, the Forest Service issued press releases, held a public meeting on March 31, 1999, and initiated tribal consultation. The proposed action was described in the *Ideas for Change* booklet that was mailed to approximately 1,300 individuals, agencies and organizations in May of 1999. The proposed action described at the public meetings and in the *Ideas for Change* was developed into Alternative A. Alternative B, the no action alternative was developed as required by the National Environmental Policy Act (NEPA). An alternative to recommend a smaller area for withdrawal was considered but dropped from further analysis.

## **B. Summary of Public Comment received in response to the Proposal**

The Forest has received over 3,000 comments concerning the withdrawal application since November of 1998. Approximately 1,365 names were collected on petitions expressing support for the potential withdrawal application and opposition to expansion of an active mining operation within the potential withdrawal area. Approximately 750 similar comments were received via form letters. Thirty-three speakers commented during the March 31, 1999 public meeting, all expressing support for the withdrawal action. In addition, 5 written comments were also received during that meeting. All other comments came in the form of e-mail, letters, postcards, telephone conversations, and formal resolutions.

Formal resolutions were passed by various groups, including Teesto Chapter of the Navajo Nation, Navajo Medicine Men's Association, Western Navajo Agency, the Dine' Medicine Men's Association, Kayenta Chapter of the Navajo Tribe, Navajo Nation Council, HATAALII Advisory Council, the Hopi Tribe, the Flagstaff City Council, and a recommendation was submitted by the Coconino County Board of Supervisors. Tribal resolutions emphasized:

1. The San Francisco Peaks are religiously and culturally significant.
2. They are the homes of Holy People.
3. A place that Native Americans gather medicines, minerals and other materials for ceremonial and traditional uses.
4. A place for conducting sacred ceremonies and prayers.

5. A location with traditional stories associated with it.

Tribes submitting letters supporting the Mineral Withdrawal were the Yavapai-Apache, Yavapai-Prescott, White Mountain Apache, San Carlos Apache, Havasupai, Pueblo of Zuni, Hualapai, and the Hopi.

The Flagstaff City Council issued Resolution #2242: “NOW THEREFORE, BE IT RESOLVED, to protect the integrity of the Peaks, the Council of the City of Flagstaff is opposed to any expansion of the White Vulcan mine, but should it not be within the preview of the Forest Service to deny an expansion, the Council urges the Forest Service to move forward with Environmental Impact Statement process; and further urges that the San Francisco Peaks be withdrawn from any future mining.” This Resolution was passed and adopted the March 17, 1999, by the Mayor and Council of the City of Flagstaff.

The Coconino County Board of Supervisors commented via an official letter that opposed further mining in the potential withdrawal area. Concerns expressed by the Coconino County Board of Supervisors were: potential patenting of mining claims that could result in inappropriate development; abandoned mine sites left without reclamation; visual impacts associated with mining; Native American issues; general concerns with the 1872 Mining Act; and other environmental issues associated with mining on the Peaks.

Other organizations and groups submitting comments opposing mining in the San Francisco Mountain/Mount Elden area, and in support of the mineral withdrawal are: Sierra Club, Northern Arizona Audubon, National Park Service, Arizona Game & Fish Department, Grand Canyon Trust, Coconino Community College of Environmental Sciences, Society for Applied Anthropology, Flagstaff Activist Network, Southwest Forest Alliance, Southwest Center for Biodiversity, Coconino Sportsmen, and the Arizona Ethno Botanical Research Association.

All of the above mentioned comments, in support of withdrawal, are represented by Alternative A.

Of the approximately 3,000 comments received, there were four that expressed opposition or concern with the proposed withdrawal. These comments were generally concerned with limiting the supply of important mineral resources. Additionally, a law firm that represents a local mining operation questioned the purpose and need of the mineral withdrawal. The Forest Service reviewed these comments and determined that the no-action alternative best represented these concerns.

### **C. Alternatives considered but dropped from further analysis**

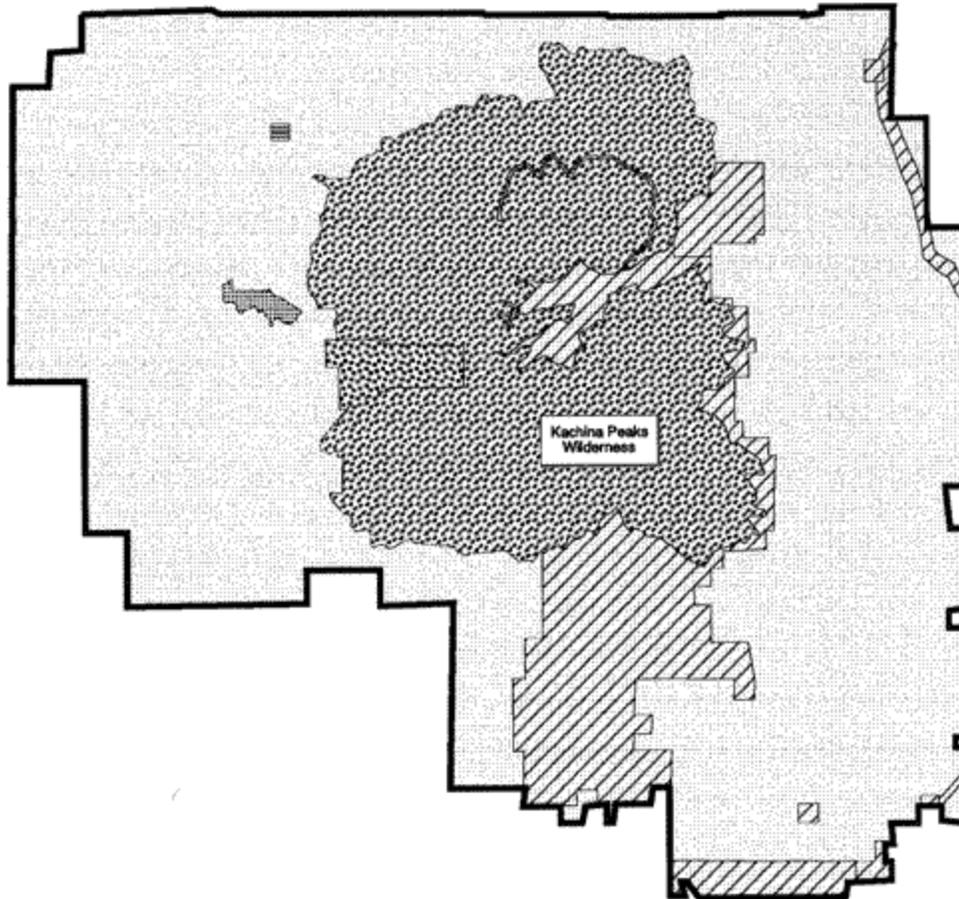
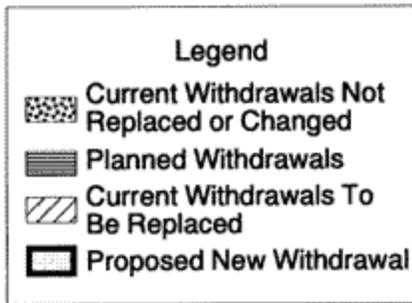
The objective in establishing a boundary for the potential withdrawal was protection of the unique resources described in the *Purpose and Need* section of this document. American Indian Tribes do not conceptualize boundaries as Euro Americans do. Consequently, the various tribes consulted were unable to provide direct and specific input as to the location of a boundary. Through evaluating the information gathered from consultations with various tribes with cultural ties to the Mountain, the agency decided on the proposed boundary. Other alternatives were discussed that involved smaller areas. They were dropped from further consideration because the resources identified by the community, tribal officials, and tribal representatives, as unique and special could not be protected through withdrawal of a smaller area. The area proposed for withdrawal is connected culturally and environmentally and functions as a whole. Protecting only portions of this area would degrade the qualities and unique resources that various communities are demanding to be protected. Consequently, withdrawing only a portion of the area proposed was dropped from further consideration because it does not meet the objectives and purpose of the proposal. This action was supported through several thousand documented comments from the public, including numerous tribes that supported the boundary as proposed. Additionally, the boundaries as proposed are readily identifiable and follow an elevation that delineates the landmass of the San Francisco Mountain/Mount Elden area.

## **D. Alternatives Analyzed in Detail**

**Alternative A** will amend the Forest Land Management Plan by adding the San Francisco Mountain/Mount Elden Area to the list of areas needing special protection of a mineral withdrawal. Alternative A will also include a recommendation to the Bureau of Land Management to act on the Forest Service's application to formally withdraw the area for twenty years. Alternative A will replace all existing withdrawals with the exception of the Kachina Peaks Wilderness and the Snowbowl Ski Area, in the area with a new consolidated 20-year timeframe. The Kachina Peaks Wilderness and Snowbowl Ski Area are permanently withdrawn; therefore, there is no need to include those areas in the withdrawal recommendation. Approximately 37% or 27,659 acres are currently covered by existing withdrawals. Under Alternative A, 46,721 additional acres will be protected by withdrawal as depicted by the map labeled Alternative A.

**Alternative B** is the "no action" alternative where no change would be made to the Forest Plan and no recommendation would be made to BLM to for withdrawal. Current withdrawals will continue until expired or renewed.

# Alternative A - New Withdrawal Area



Environmental Assessment  
for the San Francisco Mountain/Mount Elden  
Mineral Withdrawal  
Map created on 4/13/00



## **CHAPTER III - Affected Environment and Environmental Consequences**

### **A. Traditional Cultural Property**

The San Francisco Mountain/Mount Elden area is well known as a place holding extreme religious and cultural values to a number of American Indian tribes in the Southwest. The tribes holding significant traditional interests for the San Francisco Mountain are the Hopi, Navajo, Zuni, Hualapai, Havasupai, Yavapai-Apache, Yavapai-Prescott, Tonto Apache, White Mountain Apache, San Carlos Apache, San Juan Southern Paiute, Fort McDowell Mohave Apache, and Acoma. The significance of the Mountain to the tribes encompasses many aspects, including healing powers, serving as home to deities, as a physical carrier of prayers to the gods, their role in creation myths and other stories, and many other cultural and religious associations. The Mountain has been identified as a traditional cultural property to the Coconino National Forest by these tribes, and is currently being evaluated for eligibility for the National Register of Historic Places.

The Forest has been told by the tribes that commercial ground disturbing activities associated with mining are a desecration. Continued mining will further adversely affect the traditional and spiritual values as well as the quality of religion experienced. Tribal and spiritual leaders have repeatedly expressed to the Forest Service the importance of protecting the area from further mining. Mining activities are not consistent with management and protection of perhaps the most significant traditional cultural property in the Southwest. The Forest Service's surface management regulations do not provide adequate protection. This is illustrated by several large and highly visible mining related scars on the slopes of the Mountain, left without reclamation and in an unstable condition. Mining activity has impacted archaeological sites, and additional sites will be destroyed or damaged if mining continues.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then traditional cultural values will be protected from surface disturbance mining in the San Francisco Mountain/Mount Elden area.

Under Alternative B there is the potential for further degradation of traditional cultural property values from surface disturbance from mining.

### **B. Economics**

Mineral withdrawal will reduce commercial mining opportunities that may affect the economic opportunities of a few members of the local community. Continued mining could adversely affect the area's visual and recreational resources, which could ultimately have adverse economic and quality of life impacts to the residents of Flagstaff and the surrounding region. By statute, federal agencies are to administer these lands for the benefit of all Americans, including those who live near public lands or whose economic well-being depends on the goods and services these lands produce.

Mining is not a major economic factor for Flagstaff or Northern Arizona. The only active mining operation not on patented land within the withdrawal area is the White Vulcan pumice mine, operated by Arizona Tufflite Inc. This mine employs locally between 3 and 6 individuals depending upon market conditions. The potential for locatable pumice deposits within the proposed withdrawal area is rated as high, although the probability for economic recovery of those deposits is considered low. Tourism is a major economic factor for Flagstaff and Northern Arizona. The Mountain is very important to the tourism industry. Maintaining the visual quality, cultural integrity, recreational opportunities and wildlife habitat the area provides is vital to the economic well being of the region. The economic effects of the withdrawal will be positive for the community because the resources that attract tourism and recreation will be protected. The economic impact from the loss of a few mining jobs that may result from the withdrawal action will not affect the community as a whole. Maintaining the visual quality and recreational opportunities is an important factor in the quality of life for most people that

live in the Flagstaff area. The value of the San Francisco Mountain/Mount Elden area, for uses other than mineral extraction, far exceeds the mineral value.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then economic values associated with tourism and recreation will be protected from surface disturbance from mining. A few mining jobs may be lost, but the value for uses other than mineral extraction far exceeds the mineral value of this area.

Under Alternative B there is the potential for degradation of economic values associated with tourism and recreation from surface disturbance from mining.

### **C. Visual Quality**

The Forest Plan visual quality objectives for the San Francisco Mountain/Mount Elden areas are preservation, retention and partial retention. A preservation objective is prescribed for all Wilderness areas including the Kachina Peaks Wilderness and, aside from some very low impact recreation facilities, allows evidence of ecological change only. A retention objective only allows impacts that are not visually evident to the casual observer. A partial retention objective only allows impacts that remain subordinate to the characteristic landscape. The potential for mitigating the visible effects of mining activity on the San Francisco Mountain/Mount Elden area is very low given the high visibility of the area from important recreation areas and travel routes, the high color contrast between exposed soil and surrounding vegetation, and the difficulty of re-vegetating disturbed ground in the area.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then visual quality will be maintained in regards to surface disturbance mining.

Under Alternative B there is the potential for degradation of visual quality values from surface disturbance from mining. Any surface mining activity on the slopes of the San Francisco Mountain/Mount Elden area will not meet Forest Plan objectives for scenic quality.

### **D. National Interests**

National Forests have an essential role in contributing to an adequate and stable supply of mineral and energy resources. Large mineral withdrawals may preclude opportunities to develop mineral resources that are vital to the Nation. The Federal Land Policy Act of 1976 (FLPMA) declares among other things, that it is the policy of the United States that "public lands be managed in a manner that recognizes the Nation's need for domestic resources of minerals, food, timber, and fiber from the lands". The potential withdrawal area does not contain any mineral resources that are strategically important to the Country.

**Conclusion:** Implementing Alternative A and subsequent approval by BLM and the Secretary of Interior will not withdraw mineral resources that are strategically important to the Country.

### **E. Wildlife**

#### **Threatened Endangered or Sensitive Species:**

The lands being considered for withdrawal contain suitable habitat for 18 threatened, endangered, or sensitive species.

The withdrawal would protect threatened, endangered, and sensitive species from negative effects of mining. Mining can affect species by habitat loss, fragmentation of habitat, and noise disturbance. A detailed evaluation

of the potential effects to threatened, endangered, and sensitive species is located in the project record. All threatened, endangered, or sensitive species could potentially be impacted if mining activities occurred within suitable or occupied habitat for each species. The following table identifies the 18 species, which may be potentially impacted.

| <b>Species Name</b>  | <b>Suitable Habitat Present = Potential For Impact</b> | <b>High Potential for Impact</b> |
|--|--|----------------------------------|
| <b><u>Mammals</u></b>  |  |                                  |
| Black-footed ferret, <i>Mustela nigripes</i>                     | X  |                                  |
| Navajo Mountain Mexican vole, <i>Microtus mexicanus navaho</i>   | X  |                                  |
| <b><u>Birds</u></b>  |  |                                  |
| American peregrine falcon, <i>Falco peregrinus anatum</i>        | X  | X                                |
| Bald eagle, <i>Haliaeetus leucocephalus</i>                      | X  |                                  |
| Mexican spotted owl, <i>Strix occidentalis lucida</i>            | X  | X                                |
| Northern goshawk, <i>Accipiter gentilis</i>                      | X  | X                                |
| <b><u>Reptiles and Amphibians</u></b>                            |  |                                  |
| Northern leopard frog, <i>Rana pipiens</i>                       | X  |                                  |
| <b><u>Plants</u></b>   |  |                                  |
| Rusby's milk vetch, <i>Astragalus rusbyi</i>                     | X  |                                  |
| Cliff fleabane, <i>Erigeron saxatilis</i>                        | X  | X                                |
| Flagstaff beardtongue, <i>Penstemon nudiflorus</i>               | X  |                                  |
| Mt. Dellenbaugh sandwort, <i>Arenaria aberans</i>                | X  |                                  |
| Sunset Crater beardtongue, <i>Penstemon clutei</i>               | X  |                                  |
| <b><u>Insects</u></b>  |  |                                  |
| Arynxa giant skipper, <i>Agathymus arynxa</i>                    | X  |                                  |
| Freeman's agave borer, <i>Agathymus baueri freemani</i>          | X  |                                  |
| Early elfin, <i>Incisalia fotis</i>                              | X  |                                  |
| Spotted skipperling, <i>Piruna polingii</i>                      | X  |                                  |
| Mountain silverspot butterfly, <i>Speyeria nokomis nitocris</i>  | X  |                                  |
| Blue-black silverspot butterfly, <i>Speyeria nokomis nokomis</i> | X  |                                  |

There is a high potential for impact to four species: the Mexican spotted owl, northern goshawk, peregrine falcon, and cliff fleabane. These species are located in areas where there is a high probability for mineral activity and could experience impacts at a population or geographic range level as discussed below.

**Threatened Species:** Mexican spotted owls occur within the mixed conifer forests. Tree clearing for mines or road access could destroy habitat. Loss of habitat to support breeding pairs may lead to a population decline. Although mine rehabilitation could restore habitat, this species requires dense old forests that would take over 100 years to grow again to replace lost habitat.

**Sensitive species:** The northern goshawk is a rare hawk that prefers large ponderosa pine trees for nesting. Tree clearing for mines or road access could affect habitat for the northern goshawk. Loss of habitat to support breeding pairs may lead to a population decline. Habitat restoration for this species would take over 100 years.

The peregrine falcon nests on cliffs and is extremely sensitive to disturbance. Mining within 3 miles of a cliff-nesting site could cause nest abandonment. Loss of reproductive sites for the peregrine falcon could impact the population level. Once endangered by possible extinction, this species has been recovered and was recently removed from the Endangered Species List. Loss of reproductive sites will increase the likelihood of re-listing the peregrine falcon.

Cliff fleabane is a rare plant. There is one known location near Little Elden Spring. It is found growing in the crevices of dacite rocks. Mining in this area could destroy the plant and its habitat. This is the northern-most location of the plant within its range. Loss of this location would change the geographic range of the species.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then threatened and sensitive species habitat values will be protected from disturbance from mining.

Under Alternative B the potential exists for surface disturbance from mining to: 1) change the geographic range of cliff fleabane, a rare plant; 2) add to loss of reproductive sites for peregrine falcon; 3) add to loss of habitat to support breeding pairs of northern goshawks; 4) add to loss of habitat for Mexican spotted owls. It is important to note that northern goshawks and Mexican spotted owl habitat can take up to 100 years to re-establish after large-scale surface disturbance.

## **F. Soils and Water**

The San Francisco Mountain/Mount Elden area is located within portions of four different fifth code watersheds. The Flagstaff, Sycamore Canyon and Cataract-Spring Valley fifth code watersheds drain into the Verde River. The Cedar-Deadman watershed drains into the Little Colorado River. The Little Colorado River and segments of the Verde River are currently in non-attainment for turbidity standards (1996 Arizona Department of Environmental Quality (ADEQ) Water Quality Assessment).

Generally the Forest Service lands within the San Francisco Mountain/Mount Elden area are in satisfactory watershed condition, though pockets of unsatisfactory conditions exist in meadows and old wildfire areas.

The area does not contain any perennial streams or rivers, however, heavy runoff occurs in the spring from snowmelt. Past mining activity, especially in the Sugar Loaf area, has caused localized erosion and off-site sedimentation. The withdrawal action will protect downstream water quality and off-site sedimentation problems by limiting potential ground disturbing activities associated with mining.

The Nonpoint Source Intergovernmental Agreement signed by the Forest Service (Region 3) and the Arizona Department of Environmental Quality states that the Forest Service will endeavor to minimize and mitigate all potential nonpoint source pollution activities. As agreed upon by the State of Arizona and the Forest Service,

the most practical and effective means of controlling potential nonpoint pollution sources from forests and rangelands is through the development of preventative or mitigating land management practices, generally referred to as Best Management Practices (BMPs), or in the case of Arizona's process, Guidance Practices (GPs). The purpose of this agreement is to meet objectives defined by the United States Congress in the Federal Water Pollution Control Act (as amended in 1987). These objectives are to restore and maintain the chemical, physical and biological integrity of the nation's waters in Arizona by complying with water quality standards identified for designated uses in downstream perennial waters.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then soil and water quality and watershed health will have greater protection from additional surface disturbance from mining.

Under Alternative B, we cannot guarantee that BMP's and GP's could be implemented because of potential patenting of claims. There is potential for surface disturbance from mining to impact soil and water quality and create additional patches of unsatisfactory watershed.

## **G. Air**

The San Francisco Mountain/Mount Elden area lies on top of the Colorado Plateau and air quality on the Coconino Plateau is generally good. This area is in the Little Colorado, Verde and Colorado River air sheds and is classified as a Class 2 airshed. Class 2 airshed standards are under the jurisdiction of the State. Surface mining can cause localized impacts to air quality through dust and particulates generated from mining and hauling activities.

**Conclusion:** In the overall airshed there is little difference between the two alternatives, however, at a more local scale, Alternative A limits impacts to air quality from mining activities, and Alternative B maintains the potential for such impacts.

## **H. Vegetation**

The potential withdrawal area is predominately ponderosa pine cover type. The higher elevations near the wilderness boundary and including the Kachina Peaks Wilderness are mixed conifer with aspen stands.

**Conclusion:** The withdrawal action of Alternative A will protect vegetative resources, including ponderosa pine and mixed conifer old growth, which have vital importance to wildlife including threatened and endangered species.

## **I. Recreation**

Popular trails in the project area receive over 10,000 visitors per year. The Flagstaff area National Monuments (Walnut Canyon, Wupatki and Sunset Crater Volcano National Monuments) combined receives approximately 500,000 visitors per year. In 1997 the Flagstaff Visitor Center reported 110,729 walk-ins. The Snowbowl ski area receives approximately 125,000 winter visitors and 35,000 summer visitors each year. Although the ski area itself is withdrawn, areas along the popular Snowbowl Road, and areas within the vistas are not withdrawn. The San Francisco Mountain and Mount Elden are within a 2-3 hour drive from the Phoenix metropolitan area. Especially during the summer months many people travel to the area for recreation and to enjoy cooler temperatures afforded by the high elevations. Popular activities enjoyed by local and touring public include hiking, mountain biking, horse riding, dispersed camping, and driving for pleasure. There are outfitter guides operating within the San Francisco Mountain/Mount Elden area, and many groups request special use permits each year for events, such as weddings, group gatherings, and races. Rock climbing is popular activity on Mount Elden, which includes training for Search and Rescue crews. In the fall, major forest roads such as Hart

Prairie and Lockett Meadow Roads are bumper to bumper, with vehicles carrying people through the aspen fall colors.

Visitor experiences or Recreation Settings are described in the Forest Plan using the Recreation Opportunity Spectrum (ROS) system. A map of ROS inventory in the San Francisco Mountain/Mount Elden area is located in the Forest Service office as geographic information system layer. The ROS inventory for the area is generally described below.

- There are semi-primitive non-motorized and semi-primitive motorized settings in the majority of the area outside of the Kachina Wilderness. Roded natural corridors occur along major forest roads.
- There are patches of roded natural settings in areas close to major highways or developments.

The Forest Plan states that total acres of any ROS class are allowed to change no more than plus or minus 15 percent from the updated inventoried levels during the first decade. Surface disturbance mining changes a recreation setting to Roded Natural, Rural or even urban depending on the facilities and disturbance occurring. The Forest Plan directs us to manage the Mount Eden Dry Lake Hills to maintain a semi-primitive non-motorized ROS class. It is desirable to maintain semi-primitive non-motorized and semi-primitive motorized settings to maintain the recreation activities described above, and ensure a good wild land experience for visitors. Localized dust, noise, and wildlife disturbance detract from recreation experiences.

**Conclusion:** Should the BLM and Secretary of Interior approve the withdrawal as recommended in Alternative A, then recreation settings and recreation opportunities will be protected from surface disturbance from mining.

Under Alternative B, there remains the potential for surface disturbance mining that would be inconsistent with Forest Plan objectives for recreation Settings and recreation opportunity.

## **J. Cumulative Effects**

Cumulative effects are the effects on the environment, which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.

Past, Present and Ongoing activities have been considered in conjunction with Alternatives A and B. The current status of air, soil, water, vegetation, wildlife habitat, visuals, recreation, and cultural resources are described in other sections of this chapter. There are approximately 110 acres of current soil disturbance on patented mining claims and 100 acres of disturbance on unpatented claims located within the proposed withdrawal area. Implementation of Alternative A will limit additional soil disturbance. Under Alternative B, there remains the potential for additional acres of ground disturbance within the San Francisco Mountain/Mount Elden Area. Cumulative economic effects of Alternative A and Alternative B are described in section B of this chapter. Neither alternative has a large effect on the region's economy. Ongoing and Future Actions as described in the *Schedule of Proposed Actions* for the Coconino National Forest have been reviewed and are located in the Project Record.

**Conclusion:** There is not a significant cumulative effect to the environment, or to the economy of the Flagstaff region or the Nation, from implementing Alternative A. Under Alternative B there is a potential for additional surface disturbance from mining, which when combined with current mining uses, could have a cumulative effect.

## **K. Environmental Justice**

The issue of environmental equity and justice in natural resource allocation and decision-making is receiving increasing political and social attention (Albrecht, 1995; Scott, 1996). Following President Clinton's Executive Order 12898 (Federal Register, February, 1994) all federal land management agencies have been mandated to address environmental justice in nonwhite and/or low-income populations, with the goal of achieving environmental protection for all communities regardless of their racial and economic composition.

**Conclusion:** Alternative A does not result in disproportionate impacts to low-income populations, nor does it impact minority populations. As stated in the economics section above, the overall economy of the Flagstaff area, including its low income and minority populations is strongly tied to the tourism industry, with mineral extraction a very small percentage of the overall economy. Alternative A has a beneficial effect on the traditional cultural values of minority American Indian Tribes in the region.

Alternative B continues the potential for adverse natural resource effects that could negatively impact recreation and tourism-based businesses. Alternative B continues the potential for negative effects to traditional cultural values of minority American Indian Tribes.

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