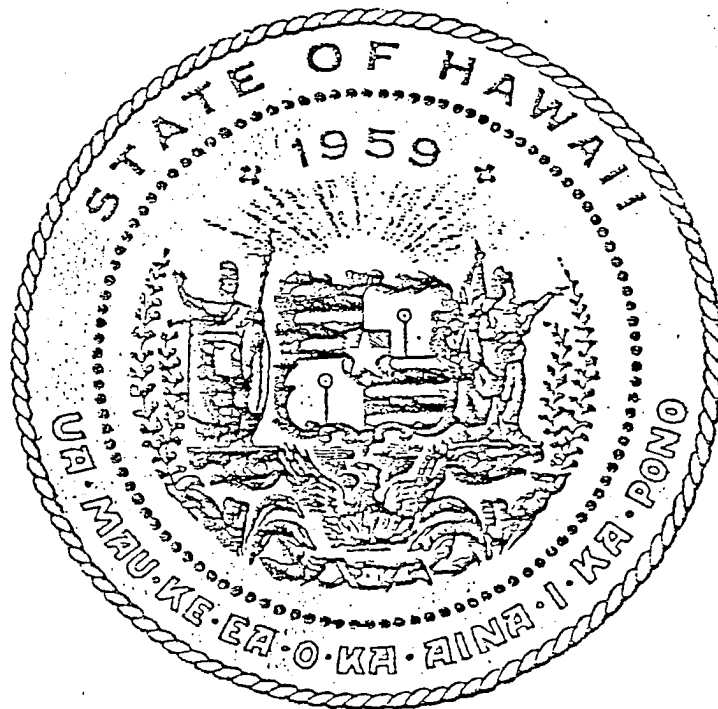


The Mauna Kea Plan



STATE of HAWAII
Department of Land and Natural Resources

May 1977

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GOVERNOR, STATE of HAWAII

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INTRODUCTION

Mauna Kea has the distinction of being the tallest mountain in the world. It measures between 29,400 to 30,000 feet from the ocean floor to the summit. In recent years, its upper slopes have become focus for a variety of uses, some of which conflict with each other. The summit is recognized as one of the finest sites in the world for astronomical research. Its seasonally snow-covered slopes are utilized for skiing and snow play and more such use has been suggested. Below, between the 6,000-foot and 10,000-foot elevations, are native Hawaiian ecosystems, including rare plants and birds. Many species are found nowhere else in the world. Hunting of feral goats, sheep, pigs, and game birds has become a traditional use within (and on the perimeter of) the Mamane/Naio Forest. General recreation, photography and sightseeing are also becoming popular.

This document is the result of a memorandum dated November 1, 1974, from Acting Governor, George R. Ariyoshi, to Sunao Kido, Chairman of the Board of Land and Natural Resources, stating:

"I am concerned that social pressures for more intensive use of Mauna Kea for scientific, recreational and other purposes pose a threat to the priceless qualities of that mountain . . ."

"To assure that full consideration is given to all aspects of permitted, controlled and prohibited uses, you are hereby directed to develop and promulgate, as expeditiously as possible, a Master Plan for all of Mauna Kea above the Saddle Road."

"Finally, the promulgation of the Master Plan should include its adoption by the Board of Land and Natural Resources following public hearings, and should provide for both the enforcement of the Plan and procedures for its amendment."

BACKGROUND

The Department of Land and Natural Resources initiated the planning study of Mauna Kea in April 1975. A thorough inventory was made of the Mauna Kea resources through inputs from: 1) the department's operational divisions; 2) A Citizen Advisory Group consisting of representatives of the County of Hawaii and some 17 organizations; and 3) a Coordinating Committee made up of affected State agencies.

Based on existing resource inventory, the above groups provided land use and management proposals for Mauna Kea as a group and as individuals. Alternative plans were prepared by DLNR staff and were reviewed and commented on by the above groups.

On May 13, 1976, a document titled, "A Plan for Mauna Kea" was presented to the Board at a public meeting in Hilo, Hawaii. Twenty persons presented verbal and written testimonies at the meeting. On November 12, 1976, a public hearing was held in Hilo, Hawaii for further input on the Mauna Kea Master Plan.

The Board, at its meeting of February 11, 1977, held in Kona, Hawaii, approved the Mauna Kea Plan subject to the revisions made at said meeting being incorporated into the document for final edit, such revisions to be approved by the Board of Land and Natural Resources.

THE MAUNA KEA PLAN

PLANNING PURPOSE, AREA AND OBJECTIVES

PURPOSE

This plan is a policy framework for the management of Mauna Kea. It states jurisdictional responsibilities for specific resources and uses and defined specific uses and facilities to be allowed within the management areas defined below. These guidelines could also be used for the management of the other mountains on the island of Hawaii.

AREA

The area covered by this plan shall extend from the summit down to about the 6,000-foot elevation and shall include all conservation district land from the summit of Mauna Kea down to the Saddle Road. This shall include the Mauna Kea Forest Reserve and Game Management Area, and the Kaohe Game Management Area.

OBJECTIVES

Determine the capability of Mauna Kea's resources to accommodate various uses without unacceptable damage to biotic and other natural values and historic values and the visual appearance of the mountain.

1. Analyze the environmental ramifications of hunting and preservation of native biotic habitat on the lower slopes, and determine the most feasible means of managing available resources.
2. Investigate potential new recreation uses of the lower slopes of the mountains including Hawaiian Home Lands within the Conservation Zone, and determine the type and level of uses that are appropriate.
3. Analyze the recreation potential of the summit area including winter uses and appreciation of natural, historic, and astronomical values. Establish guidelines for types and levels of use.
4. Recognize the world-wide significance of Mauna Kea's summit for astronomical research and set a limitation for facilities based on need and environmental concerns.

5. Analyze the need for mid-level facilities to support the high elevation astronomical research facilities within the context of land use, requirements for utilities, and other environmental concerns.

MANAGEMENT AND DEVELOPMENT PLAN

Use of Mauna Kea's lands and resources has evolved from one of very light use by early Hawaiians, to grazing, and now to a complex of uses and proposed uses ranging from research astronomy to hunting and preservation of rare Hawaiian biota. Some uses conflict, or may appear to conflict. The following plan for management and use encompasses a policy framework within which appropriate uses of the land can continue with minimum conflict with other uses and minimum damage to resources. Proposed developments are designed to serve the specific needs dictated by use levels and types.

Management Areas

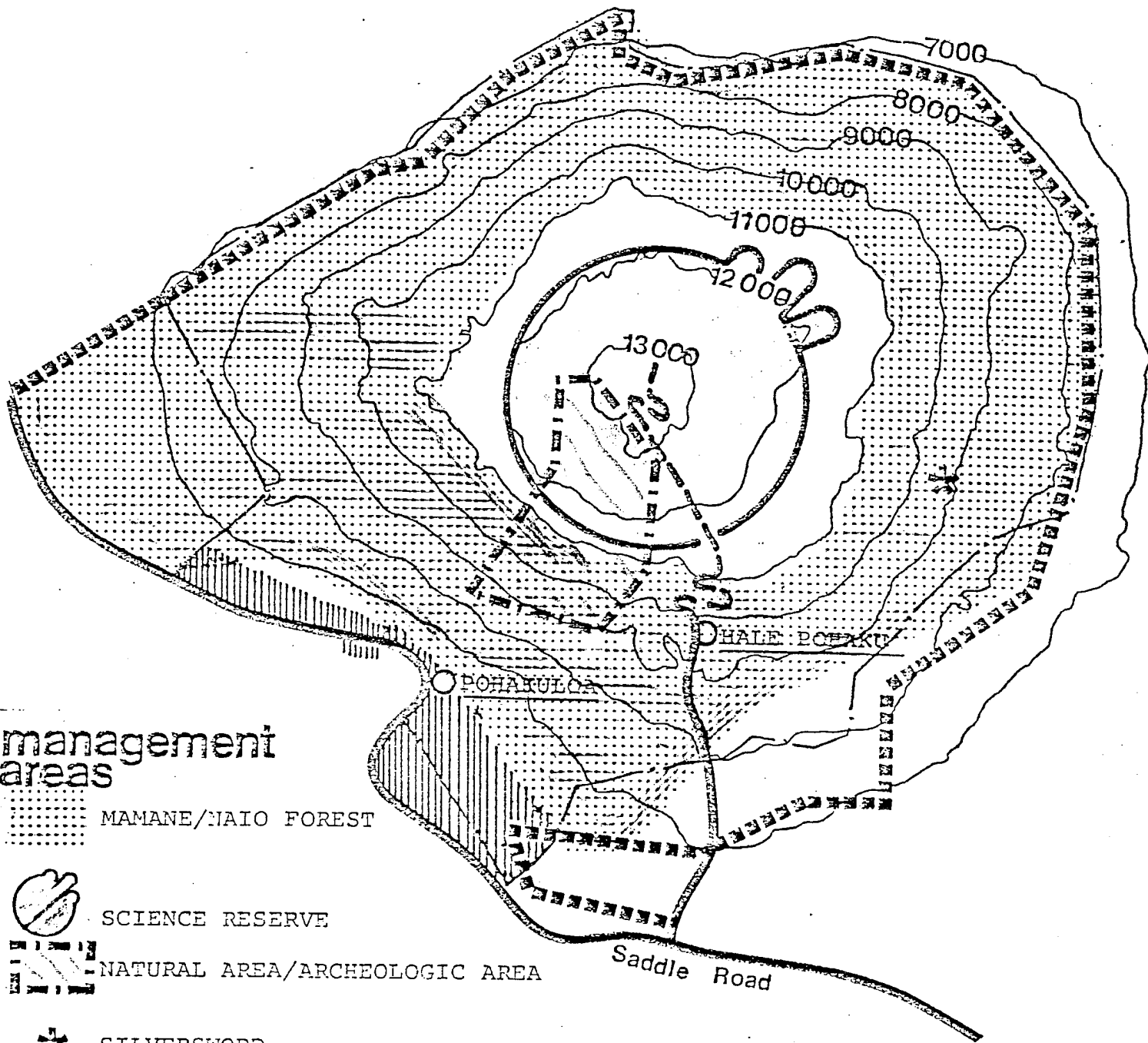
There shall be five management areas appropriate to specific uses or combination of uses. (See attached maps for specific management areas). Wherever two management areas overlap, the more restrictive use limitations will apply.

I. Mamane/Naio Forest Ecosystem Management Area

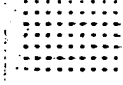
In accordance with the rules and regulations established in the Federal Endangered Species Act of 1973, and pursuant to Act 65 of the 1975 State Legislature, this area will be managed primarily to maintain and improve the native Hawaiian Ecosystem and the threatened and endangered species found therein.


Public use will be permitted in this area, including but not limited to hiking, riding horseback, use of four-wheel-drive vehicles in designated areas, hunting game birds, pigs, and other game animals, birdwatching, and visiting interpretive exhibits and day-use destination points.

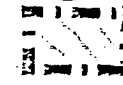
Construct, as animal free as possible, fencing around two or more areas, comprising an approximate total of 25% of the existing and/or historic range of the mamane forest. These areas, or preserves, shall be situated to include the most critical and essential habitat deemed necessary for the long-range preservation of the whole spectrum of Mauna Kea's native Hawaiian ecosystems, with special consideration given to endangered species.





management areas


 MAMANE/NAIO FOREST

 SCIENCE RESERVE

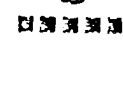
 NATURAL AREA/ARCHEOLOGIC AREA

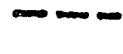
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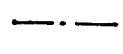
 MILITARY

 SPECIAL PROBLEMS

legend

 Conservation District

 Unpaved Road

 Forest Reserve

THE MAUNA KEA PLAN

Boundaries will be coincident with existing Mamane/Naio Forest above the Saddle Road and within the conservation district. Specific boundaries for these preserves shall be determined and designated by the Board on recommendation of an Ad Hoc Committee working in Hawaii who are knowledgeable in various fields of natural history pertinent to Mauna Kea's native biota. The members of the committee shall be appointed by the Board of Land and Natural Resources.

Management of the Mamane/Naio Forest ecosystem will be primarily the responsibility of the Division of Forestry.

An intensive management and research program related to the preservation of native ecosystems shall be conducted. The restoration of flora and fauna in the preserves shall be monitored. It should be determined if there are other introduced limiting factors operating on endangered species; and when one is identified, feasible programs to reduce its effect on the species shall be initiated.

Specific efforts to improve the forest ecosystem will include planting potted mamane seedlings, grass -- preferably the native bunch grasses, and constructing erosion dams.

Specific Mamane/Naio Forest management area protection efforts will include the following:

- A. Insect and disease protection, accomplished through detection and appropriate control action.
- B. Fire prevention and protection, accomplished by detecting fire hazards, and by temporary closure of hunting and recreational areas during any dry spell when the danger of fire is obvious.
- C. Prevention of unauthorized removal or destruction of vegetation (especially the less common species), control of off-road use of vehicles, and prevention of littering.
- D. Prevention of destruction by exotic animals.
 - (1) The boundary fence between the Mauna Kea Forest Reserve and adjacent grazing lands will continue to be maintained.

- (2) Until the fencing is completed around the Mamane forest areas, the preserves shall be made free of any unapproved species of animals through a liberal but controlled public hunting program. The preserves and fencing, when it is completed, shall be inspected on a regular and periodic basis to insure against any unpermitted animals being in the area. Game bird and pig hunting shall be permitted under normal regulations.
- (3) In the fenced areas hunting seasons will be designated as year round for feral sheep and goats which have been deemed desirable due to their destruction of the Mamane/Naio forest.
- (4) Each species of permitted game animals will be managed for public hunting. The public hunting areas will include the entire mountain, exclusive of the Science Reserve Management Area and safety zones around facilities.
 - (a) If studies show to the satisfaction of the Board or it becomes legally necessary to eliminate any species of game animals on this mountain to assure ecosystem viability, then the elimination of such species will immediately follow through the practice as set in the fenced off preserved areas with staff help when necessary.

F. Management of the wildlife components of the ecosystem will be primarily the responsibility of the division of Fish and Game.

- (1) Maintain a game mammal and game bird hunting recreation program by implementing a sound range management plan.
- (2) Conduct a hunting recreation program to provide the highest annual harvest practicable. The number of animals to be maintained will be determined on a unit by unit basis, taking into consideration geographic, climatic and vegetational characteristics of each unit.
- (3) Focus management efforts towards a long-range program which will arrest game animal habitat deterioration and thereby prevent a further decline in the carrying capacity of the range. Achieve a sustainable mammal population by manipulating hunting pressure unit by unit. Place management emphasis on maintaining a hunting population of permitted animals.

II. Science Reserve Management Area

The entire area leased as the Mauna Kea Science Reserve will be used primarily for scientific research, in accordance with lease arrangements with the University of Hawaii.

Any use of the lands will be, however, subject to regulation under County, State and Federal laws on Historic Sites, Natural Area Reserves, and conservation districts.

- A. Winter snow play and skiing will be permitted at appropriate summit areas. Portable lifts, portable restrooms, warming huts will be subject to approval under the conservation district laws, and shall be the responsibility of the U.H. in accordance with the lease between the Board of Land and Natural Resources and University of Hawaii. All mechanized equipment deemed necessary and approved for use shall be provided and maintained at the expense of the user. All facilities allowed shall be removed during periods of insufficient snow to maintain the mountain's scenic qualities.
- B. Application for any proposed facility on Mauna Kea shall be accompanied by a comprehensive justification report, showing:
- (1) Public benefit to the people of Hawaii, in terms of employment sources, educational pursuit, overall economic development, etc.
 - (2) Public necessity in terms of cooperative use of facilities and overall advancement of science and research;
 - (3) Evidence that Mauna Kea is the best site for such facility;
 - (4) Compatibility with other uses of Mauna Kea and within the terms of the lease between the University of Hawaii and the Board of Land and Natural Resources.
- C. No application for any proposed facility shall have final approval without the applicant having first filed, with the Board, adequate security equal to the amount of the contract to construct the telescope facilities, support facilities and to cover any other direct or indirect costs attributed to the project. Upon completion of the project to the satisfaction of

the Board, adequate security shall be deposited to cover the cost of removal of the facility should that be necessary. In addition, the method by which the applicant will obtain electric power must be listed for consideration by the Board and each final approval of any application shall be pursuant to the Conservation District Laws.

- D. The Lessee and approved sub-lessee shall observe and comply with Regulation No. 4 of the Department of Land and Natural Resources and with all other laws, ordinances, rules and regulations of the federal, state, or county governments affecting the demised lands or improvements. If any existing facility is removed, it shall not be replaced by a new telescope unless approved by the Board as directed under these policies and with at least one public hearing being held in the County of Hawaii.

III. Special Natural Area and Historic/Archaeologic Management Area

This area, which includes Lake Waiau, Puu Hau Kea, Adz Quarry and Puu Pohaku, will be designated as a natural area reserve under the State Natural Area Reserve System to preserve these important natural and historic features of Mauna Kea. The fragile natural and prehistoric character of Lake Waiau should be further protected by prohibiting construction of any type or size and providing only a walking trail to the site. This will encourage visits by those genuinely interested in the unique natural integrity and beauty of the Lake.

IV. Silversword Management Area

This area consists of the land now fenced off to protect silversword plants. It will be managed as a nursery for supplying plants in interpretive areas or for future reestablishment in other areas on the mountain, should that be determined to be desirable by the Board.

V. Military Management Area

Encompassing the lands within the Pohakuloa Training Area, this area will continue to be managed and utilized primarily for military operations in accordance with and while lease arrangements with the Army are in effect.

The Army shall be restricted to the existing training area, and shall not be allowed to expand operations to the slopes of Mauna Kea, except for short-term uses permitted by the Board under the conservation district regulations upon a finding by the Board that such uses will not be inconsistent with the policies stated herein.

SPECIAL PROBLEMS

Certain problems regarding utilities and other special uses on the mountain have ramifications affecting public uses, management and research.

The following will regulate these specific areas:

HALE POHAKU

The Hale Pohaku area is within the Mamane/Naio Forest; however, since it takes up a relatively small portion of the total area, mid-level facilities at Hale Pohaku, as limited below, will be consistent with the overall recommended use of Mauna Kea, and with the management of the native Hawaiian ecosystem. Design of the mid-level facilities shall be controlled to ensure that disturbance of the Mamane/Naio Forest ecosystem will be minimal. The Hale Pohaku facility will consist of mid-level facilities for necessary research personnel for the summit, a central point for management of the mountain, and a day-use destination point for visitors and primitive overnight camping facilities. The selection of this location is based on the need for altitude acclimatization for astronomical research staff and on the desire to consolidate development for reasons of aesthetics and efficiency. Development at this location will, however, remain at a level in accordance with minimum research and public needs.

A master plan for the Hale Pohaku area shall be prepared by the Department of Land and Natural Resources. Said plan shall incorporate plans for all intended uses of Hale Pohaku, and shall be prepared in consultation with the Divisions of Forestry, Fish and Game, State Parks, University of Hawaii and County of Hawaii. Said plan shall be submitted to the Board, together with an environmental impact statement for approval pursuant to the conservation district laws.

Disposition of all structures at Hale Pohaku shall be as ordered by the Board.

POHAKULOA STATE FACILITY

At the Pohakuloa State Facility, no change in the type of recreation use is proposed. Any additional development is contingent upon additional water development and subject to Board approval under laws relating to the conservation districts.

ADMINISTRATION

Administration, jurisdiction, and use of Mauna Kea cuts across many lines of responsibility. Not only does it involve several divisions within the Department of Land and Natural Resources, as well as the Board of Land and Natural Resources, but also the County of Hawaii, Department of Transportation, Hawaiian Homes Commission, and to some degree, the Federal Government. The purpose of this portion of the plan is to delineate responsibility, minimize duplication and ensure that such facet of management shall have a responsible agency.

1. Division of Forestry shall be responsible for:
 - A. Forest plantings;
 - B. Forestry research;
 - C. Management of trails, firebreak roads, and forest camping areas;
 - D. Construction and maintenance of boundary fencing and patrolling boundary areas;
 - E. Inspection of sites covered by Conservation District Use Applications;
 - F. Enforcement of laws relating to the Conservation Districts and conditions set forth in approved Conservation District Use Applications;
 - G. Management of threatened and endangered plants and their critical habitat; and
 - H. Enforcement of Forestry Regulations.
2. Division of Fish and Game shall be responsible for:
 - A. Management of feral and exotic game wildlife;
 - B. Management of threatened and endangered wildlife;
 - C. Management of wildlife habitat, including critical habitat for endangered species;
 - D. Administration of public hunting and hunter safety programs;
 - E. Wildlife research;

- F. Maintenance of hunter cabins, hunter access roads and public hunting areas;
 - G. Review of Conservation District Use Applications as they affect the public hunting areas, threatened and endangered wildlife species, and their critical habitats; and
 - H. Enforcement of Fish and Game Regulations.
3. Division of State Parks, Outdoor Recreation and Historic Sites shall be responsible for:
- A. Management and upkeep of Hale Pohaku park facilities upon designation by executive order or Board resolution;
 - B. Management and upkeep of Pohakuloa area;
 - C. Management of the historical, archaeological, and geological features;
 - D. Management and upkeep of the skiing facilities; and
 - E. Enforcement of State Parks rules and regulations.
4. University of Hawaii shall be responsible for:
- A. Management and upkeep of Hale Pohaku area astronomy facilities upon designation by executive order or lease agreement to the University of Hawaii;
 - B. Management and upkeep of Mauna Kea Science Reserve as provided under the lease agreement; and
5. Department of Transportation, Division of Highways shall be responsible for:
- A. Upkeep and maintenance of the Mauna Kea Access Road from Saddle Road to Hale Pohaku upon transfer of the jurisdiction of said road to the Department of Transportation.

PROCEDURES FOR AMENDMENT OF THE PLAN FOR MAUNA KEA

The foregoing plan is conceptual and based on information now available. As data on biotic resources, impact of use, changes in research programs, and new proposals for other uses and management become available, it will become necessary to review the concepts of land use stated in this plan. Therefore the following are set forth:

1. The Mauna Kea Plan is a policy guide on land use and management adopted by the Board of Land and Natural Resources;
2. The Mauna Kea Plan shall be reviewed by the Board annually. Any proposed amendments shall be in accordance with procedures as adopted by the Board. Such procedures shall be adopted by the Board within thirty days after adoption of the Master Plan at a public hearing on the island of Hawaii.
3. Land Use and management proposals not included in but consistent with the Mauna Kea Plan may be reviewed by the Board at a regular meeting to be held on the island of Hawaii;
4. Public hearings on the island of Hawaii shall be held in the review of proposed amendments of the Mauna Kea Plan when deemed in the public interest by the Board;

IMPLEMENTATION

This plan shall take effect upon adoption by the Board of Land and Natural Resources. For those elements of the Plan which require special funding, personnel, or detailed planning a contingency plan shall be prepared by the affected Division and submitted to the Board for review and approval and shall be implemented until such time as the original element can be implemented.