Plans drawn for majestic Mauna Kea

"Mauna Kea was important to the early Hawaiians. There they quarried its rock, and there lived Pūhau, their Goddess of Snow, rival to Kū. So, Mauna Kea still remains important, although the reasons differ." —Northeast Hawai'i Community Development Plan, County of Hawai'i

The importance of Mauna Kea as an international astronomical research center was brought into a clearer focus than when a flurry of dedications of observatory projects took place on last winter and early fails. With six observatories atop the 13,976-foot summit, and with the possibilities of more observatories to come, Mauna Kea now can unquestionably claim its world leadership in astronomical studies.

But Mauna Kea means more to the Big Islanders than a haven for professional astronomers. To the people of Hawai'i, it is the mountain, or the universe. It is a natural beauty, it is the habitat of precious Hawaiian birds and plants, and it is a playground for Pacific Islander.

Against this background, both the State and the County of Hawai'i have been trying to formulate a plan that will protect the mountain's natural resources, and at the same time, let the scientific development to continue atop the mountain. The task has not been easy.

Mauna Kea, meaning in Hawaiian the "White Mountain," extends 16,000 feet from the ocean floor to the sea level before continuing another 4,000 feet, making it the tallest mountain in the world. Commonly, however, the mountain region begins from the 8,000-foot elevation and extends to the summit.

The mountain has two distinctive zones. One covers an area from the 8,000-foot to the 13,000-foot elevation within which lie the fragile ecosystems of rare birds and unique plants, and where hunting of sheep, goats and pigs ranks among popular sporting activities on the Big Island.

The second area covers from the 13,000-foot to the 13,976-foot elevation to the summit. It is here astronomers have found the finest spot in the world to open up windows to the sky. Winter snow on the summit region provides breathtaking scenic beauty and rare recreational opportunities on the mountain slopes towering above the tropical Pacific.

Serious consideration for drafting a master plan for Mauna Kea were triggered in late 1974 by Acting Governor George Argyrakis in a memorandum to Senio Kido, chairman of the State Board of Land and Natural Resources. The memorandum stated:

"I am concerned that social pressures for more intensive use of Mauna Kea for scientific, recreational and other purposes pose a threat to 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 the area immediately above the Saddle Road...."

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

After more than two years of study, public hearing, and debate, the plan for Mauna Kea was adopted February 11, 1977 by the Board of Land and Natural Resources at a meeting in Kona. The Plan is in no way considered a definitive planning work for the mountain. It is a set of broad guidelines to be reviewed and updated from time to time.

The plan is a policy framework for the management of Mauna Kea. It outlines the jurisdictional responsibilities of various government agencies for specific resources and uses.

The plan spells out five management areas within which guidelines on specific uses of the mountain's resources are laid down:

1. Mauna Kea / Nalau Forest Ecosystem Management Area, which is the region extending from the 13,976-foot elevation to the 10,000-foot elevation; where hunting of sheep, goats and pigs take place; and where Hawai'i's Palace birds are dependent on the Mauna trea for its habitat and food.

2. Science Reserve Management Area, which is a region from the 10,000-foot elevation to the summit and is leased to the University of Hawai'i for scientific research, and where snow play and skiing is accomplished during winter months.

3. Special Natural Area and Historic / Archaeological Management Area, which includes such historic sites as Lake Waiau, Puu Hau Kea, Adz Quarry, and Pu Pohaku.

4. Silverwood Management Area, which is the region from the 10,000-foot elevation to the summit and is leased to the State for recreational use.

5. Military Management Area, which covers the lands within Polahkou Valley, Military Training Area, managed by the Army under an lease agreement with the State.

In addition to the five management areas, the plan sets out guidelines on several "special problems" affecting the use of the entire mountain.

One is the development of Hale Pohaku at the 9,200-foot elevation. A State master plan for the area calls for setting aside nine acres for the University of Hawai'i, Institute for Astronomy for development of mid-level support facilities for the scientific.

Presently, four acres of the proposed site, near the access road to the summit, are occupied by structures temporarily serving as mid-level facilities for the scientists. The master plan for Hale Pohaku proposes to replace the existing temporary buildings with new ones.

The new buildings "will be used for sleeping, eating, lounging, research support, and minor maintenance functions directly related to telescope operations at the summit."

About 700 feet downhill from the proposed mid-level support facilities area is an eight-acre area the State proposes for a park development.

Initially, two acres of this proposed park site will be developed with an information and interpretation station, parking area, and 10 picnic sites. Six acres will be reserved for future expansion.

The 5,000-foot access road to the summit from Hale Pohaku poses another special problem. The Mauna Kea Plan forbids paving of the gravel road but calls for road safety devices. Only four-wheel drive vehicles are allowed to go from the picnic area above Hale Pohaku to the summit.

The summit access should be maintained by the State Department of Transportation, according to the plan.

Electricity is produced on-site generators to supply power to the observatories and support facilities. The Mauna Kea Plan prohibits the installation of overhead powerlines to prevent the adverse affect on the visual quality of the slopes. Underground powerlines, however, may be allowed.

The Polohkou State Park also is a special area which is not included in any of the five management areas. The Mauna Kea Plan calls for no change in the type of recreational use of the park. Any expansion will depend on additional water supply development.

Administration and management of Mauna Kea cuts across the jurisdictional boundaries of several government agencies, although the land mass falls within the conservation district jurisdiction of the State Department of Land and Natural Resources. For instance, the DLNR's Division of Forestry, Fish and Game, and Parks, Outdoor Recreation, and Historic Sites are directly involved in the management of all of the mountain's resources.

The University of Hawai'i has the responsibility for management and upkeep of Hale Pohaku area where permanent mid-level support facilities will be located. The University also is responsible for the management and upkeep of the Mauna Kea Science Reserve at the summit.

The State Department of Transportation is responsible for the maintenance of the access road from the Saddle Road to Hale Pohaku and eventually to the summit.

Although the County of Hawai'i has jurisdiction over the mountain, it nevertheless is responsible for processing permits for building and grading and for site or design reviews. The County's Planning Department also is asked to provide comments and recommendation before the DLNR makes a land use decision affecting Mauna Kea.

In formulating the Mauna Kea Plan, differences between local and State planners developed. Until this date some of the differences still have not been settled while the three-year plan is being reviewed by the DLNR for revising and refining.

The most noticeable difference is over the limit of the number of observatories that should be allowed atop the mountain. Although both the County Administration and DLNR members favor the recommendation, the County Administration, which is endorsed by the County Administration, was asked to recommend the observatories. The recommendation was rejected by the Land Board, and at present, no limit on the number of the observatories is placed by the State Administration.

Besides its scientific significance, the Big Islanders, both inside and outside of the Big Island, have a deep sense of the natural beauty of the mountain and about its historic and cultural heritage. Sites such as Puupukahi, home of the ancient Hawaiian community, and Pali Hale, site of the ancient Hawaiian community, are included in the proposal to place the summit in the conservation district jurisdiction of the State Department of Land and Natural Resources.

Photo by Frank Salmoiragi
Mauna Kea ("white mountain") has a long and complex history, involving repeated episodes of volcanism and glaciation to which man was a witness. The last volcanic eruption on the mountain-related Polynesian settlement of the Hawaiian Islands by 4,000 years or more, while the last glacial had receded more than 9,000 years before man's arrival. The culture history of Mauna Kea is well described in its natural history and geological processes, but it is not so interesting or scientifically important.

From an astronomical and Hawaii's adaptation of Mauna Kea's varied environments is of the utmost interest. Unfortunately, the material forms, agricultural terraces, etc. for much of this is in the lower mountains has been probably destroyed in the last 100 years through shifting winds, which has been, on the whole, superficially studied. The prevailing windward flanks of Mauna Kea (the Hamakua coast, for only 500 years), along this coastline would have been the extensive lands to be settled by the Hawaiians.

Exploration of the native plant and animal life on Mauna Kea at present is not possible due to the lack of arid, arid walks to the summit area. That Hawaiians became familiar with the alpine country in the number of upland trails and name given to cinder cones on the summit plateau, in addition to the fact that they lived in a godless name Poliihaka. Occasionally the remains of deceased kin were buried high up in the mountain and the deposits of certain families degrading the brolindrical (pohnii) caves of Lake Waiau at the 8,000 foot elevation. On this same side of the mountain, not far below the same area is the most notable archaeological sites in the Hawaiian Islands. This is the Mauna Kea Adze Quarry, a National Historic Landmark.

Archaeological investigations of the adze quarry, conducted by the Bishop Museum, have developed. The degree to which archaeology can continue to achieve its goals as a social science is dependent on public attitudes toward historic preservation. In this regard, it is fair to conclude that "the future of the past is the present."

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**Planners ponder Mauna Kea’s future**

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Goddard of the Space and Waterways Branch of the U.S. Canada has said, "Mauna Kea and the other observatories of the University, have developed. The degree to which archaeology can continue to achieve its goals as a social science is dependent on public attitudes toward historic preservation. In this regard, it is fair to conclude that "the future of the past is the present."

"There are a number of considerations equally important in making recommendations for land use (affecting Mauna Kea)," says Oono. These considerations include the "need of the scientific community, the role the University plays, the educational needs of the Big Island, as well as the input we've received from the county in terms of its overall objectives and goals regarding the use of the mountain."

"At present, the ultimate goals for the mountain use are under review by the Department as part of the review of the Mauna Kea Plan," Oono says. "Hopefully, the results of this review will further specify the kinds of goals that all of us are working to achieve in terms of Mauna Kea."

In review, Oono says his department is listening "very closely" to the University, the County government, as well as the general public. And, the State chief protector of the natural resources resources of the land promises: "The main thing is we have to treat it (Mauna Kea) with sensitivity."