

**Office of Mauna Kea Management
2011 Supplemental Funding Request**

Description of Request:

OMKM funds are requested to initiate baseline research, continue long-term monitoring programs and engage in activities necessary to implement and enforce the comprehensive management plan (CMP). OMKM is also in the immediate term responsible for preparing and submitting for approval four subplans to the Board of Land and Natural Resources. In addition, OMKM/UH is responsible for defending State and/or Federal Environmental Impact Statements and Conservation District Use Applications for the TMT and PanSTARRS projects. These costs include outside legal fees. In addition, OMKM will be developing administrative rules and will be responsible for implementing and enforcing those rules.

Contribution to meeting strategic outcomes:

The Office of Mauna Kea Management 1) assumes leadership in knowledge creation by building on existing research strengths and 2) promotes research through collaboration across disciplines, among campuses and with international colleagues.

Justification:

Since its establishment in August 2000, OMKM has been setting the groundwork for developing a comprehensive management plan (CMP). The primary purpose of the CMP is to guide OMKM in the preservation and protection of Mauna Kea's unique resources. Secondly, the CMP is a requirement pursuant to a Circuit Court ruling for all future development projects proposed for Mauna Kea. In early 2009, UH submitted its CMP to the Board of Land and Natural Resources (BLNR).

On April 16, 2009, the BLNR approved the CMP but imposed several conditions. The most significant condition was placing the responsibility on the Board of Regents (BOR) to implement the CMP. The BOR subsequently delegated that responsibility to UH Hilo/OMKM. The BLNR also imposed the condition requiring the preparation of four subplans. These subplans must be submitted to the BLNR for approval within one year or prior to the submittal of a Conservation District Use Application (CDUA), whichever occurs sooner. The subplans contain additional management recommendations, and once approved by the BOR and subsequently by the BLNR, OMKM will be responsible for implementing these additional management recommendations. Finally, OMKM is required to report annually in person to the BLNR the status of the implementation of the management recommendations contained in the CMP.

In addition, the legislature granted UH statutory authority to develop, implement and enforce administrative rules governing public and commercial activities on UH's managed lands. The development of the rules will require securing consultants to develop rules and, as required by law, holding public hearings. Implementation of administrative rules is critical in carrying out the management recommendations of the CMP.

There is no doubt that implementation of the CMP and administration of the rules will require additional personnel, research, and other resource management programs. The CMP calls for research to fill in the information gaps necessary for OMKM to properly manage the resources. The CMP and its accompanying subplans identify those research gaps.

OMKM's responsibilities include the preparation and submittals of Environmental Impact Statements (EIS) and CDUAs for proposed major projects on Mauna Kea. Each of these submittals are subject to legal proceedings, including contested case hearings and potential lawsuits and, therefore, requires legal consultation and review which is not available within UH. Currently, there are two projects that are in the process of developing their EIS and each is scheduled to submit their CDUAs in 2010.

Operations costs are very high due to the type of activities OMKM, in particular the rangers, must contend with on a daily basis. Activities are especially high risk due to the exposure to changeable and extreme weather conditions; harsh, remote and variable work conditions; long and frequent drives on unimproved and dangerous roads; and caring for the health and safety of the public on rough and remote terrain.

OMKM's activities and operations are critical elements of the infrastructure necessary to support world-renowned astronomical research. This infrastructure includes research, monitoring and protection of the biological, physical, and cultural resources of Mauna Kea, without which the community would be adverse to the advancement of astronomy research programs on Mauna Kea.

Strategic outcomes which will be met:

Goals and Objectives of the University's Strategic Plan include: 1) assuming leadership in knowledge creation by building on existing research strengths, addressing critical gaps, and capitalizing on Hawaii's natural advantages; and 2) promoting research through collaboration across disciplines, among campuses, and with international colleagues. Management of the summit of Mauna Kea directly supports excellence in research on Mauna Kea. By protecting the resources, Mauna Kea can continue to be a place where Hawaiian culture will thrive and global interdisciplinary research in astronomy, biology, hydrology, and geology will also thrive. Without proper management, these activities cannot be allowed to continue because of the potential negative impact to the resources, including potential destruction of archaeological and cultural sites and habitat of the wekiu bug, a candidate for Federal threatened and endangered status.

Overall benefit to the state, system, UH Hilo and individual students:

By helping to ensure UH's continued world leadership in astronomical research and education, the overall benefit is to the entire UH system, with special emphasis on UH Manoa and UH Hilo. As long as Mauna Kea maintains its lead as a premier location for ground-based astronomical research, UH will continue to receive the best and most advanced technological astronomy related project proposals. UH Hilo's Astronomy & Physics Dept. will benefit because of access to its own instructional telescope on Mauna Kea, which will attract students to UH Hilo with ancillary benefits to other UH Hilo science and research programs.

The economic and social benefits to the Big Island community and State are enormous. Astronomy is a vital part of the State's efforts to expand its high technology industry. It adds diversity and stability to Hawai'i's economy which is highly dependent on the visitor industry, a volatile industry tied to the health of national and global economies.

Social benefits include expansion and development of excellence in science, engineering and mathematics programs of Hawai'i's institutions of higher learning; opportunities for local students (in particular, Native Hawaiians) to obtain degrees and skilled jobs in the high tech fields; and raised standards of living for Hawai'i's people.

In order to maintain its lead in the science of astronomy and attract new projects, the University and State must mend the broken trust with the community. It is the community that will allow astronomy to continue to thrive on Mauna Kea, but it must know there is harmony, effective and respectful management of the mountain, and respect for Native Hawaiians and their culture.

Consequence to the state, system, UH Hilo and individual students if this proposal is not funded:

UH and the State will not benefit if astronomy declines. Without the operations of, and proper management by OMKM of the summit of Mauna Kea, UH will be unable to provide appropriate stewardship for the summit's natural and cultural resources or to maintain an appropriate environment for astronomy. Any future changes, including expansion or improvements to any observatory, including UH's, hinge on the successful management by OMKM.

Outcome measurement:

Success of the proposal will be the successful implementation of the CMP and OMKM's policies and directives, and acceptance by the community of astronomy on Mauna Kea. Success will also be measured by the number of jobs, expansion of UH Manoa's and UH Hilo's academic astronomy programs, including increased enrollment; increased research grants; and expansion of, and increased vitality of the Big Island economy.

Current resources being applied to this area:

There are currently two full time administrative and four part time personnel. Total annual salaries is approximately \$210,000. The balance of funds are used to support and maintain the ranger corps; fund long-term, on going surveys and multi-year research projects; development of management plans, including the Public Access Plan; development, implementation and enforcement of administrative rules; and outreach, including newsletters, brochures, public meetings/hearings, open houses and/or town hall meetings.

Reallocation of current resources:

UH does not have sufficient current resources to reallocate.

Expenditures made for this effort in prior years:

Funds have been expended on research of some the more sensitive resources found on Mauna Kea. These include an archaeological inventory of the entire 11,288 acres of the Mauna Kea

Science Reserve; ongoing surveys and 5-yr study of the life history of the wekiu bug, a candidate species for endangered/threatened status; funding of a 4-year climate study related to wekiu bug food dispersal patterns; surveys to establish baseline information on alien species; funding of an archival research project on historical observations and use of Mauna Kea; funding of an oral history project; establishment of a 5 member permanent ranger corps; funding of the operations of the ranger program; funding of the development of cultural and natural resources management plans; hiring of part-time librarians and establishment of a resource library, development of database system for recording daily observations by the rangers; and funding of a mapping project.

The work initiated by OMKM has yielded information about the Science Reserve that to date has been largely unknown. Now OMKM has a better idea about the resources it is charged to protect and preserve. The ranger program is a highly successful one. The presence of rangers has helped to increase awareness of the significance of the mountain to the visiting public; have helped to curtail degradation to the resources through their interaction with the public and their daily monitoring of activities on the mountain; monitor commercial operators and prevent inappropriate activities that are harmful to the mountain; provide safety functions, including traffic control and first aid assistance. The archaeological inventory has resulted in a clearer picture of the cultural landscape. Wekiu bug research has increased the knowledge of the bug's habitat range and a better understanding of the biology of the bug, which until recently, very little was known.

Daily recording of data by the Rangers are inputted into a database. There are now statistics relating to vehicular traffic, recreational activities, observatory and commercial tour activities.

Impact on other state programs/agencies:

Astronomy is tied into and part of the State's high technology industry which is administered and monitored by DBEDT. Success of astronomy contributes to the State's program to expand it's high tech industry. Mauna Kea is a visitor destination because it attracts visitors to the mountain, in particular, Japanese visitors. Visitors use commercial operators to provide transportation to Mauna Kea to view the sunset and to star gaze at lower elevations. OMKM is a partner and neighbor to DLNR lands. OMKM's rangers help provide oversight of DLNR's Mauna Kea Ice Age Natural Reserve, the location of the best known adze quarry in Hawai'i.

Program ID:

Currently, OMKM is a part of and is included in UH Hilo's budget and Program ID. It is recommended that the University request that while OMKM remain administratively under UH Hilo, a separate Program ID be established for OMKM in order to account for and monitor its appropriations and expenditures separately.