



University of Hawai'i at Hilo

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**Minutes
Regular Meeting**

Mauna Kea Management Board
Tuesday, September 18, 2012

Kukahau'ula, Room 131
640 N. A'ohoku Place
Hilo, Hawai'i 96720

Attending

MKMB: Chair Barry Taniguchi, 1st Vice Chair Patricia Bergin, 2nd Vice Chair/Secretary Ron Terry, Lisa Hadway, Herring Kalua, Gregory Mooers, and Christian Veillet

Kahu Kū Mauna: Chad Kalepa Baybayan and Tiffnie Kakalia

OMKM: Fritz Klasner, Stephanie Nagata and Dawn Pamarang

Others: Pua Case, Thomas Chun, Sandra Dawson, Hanalei Fergerstrom, Paul Gillett, Cory Harden, Harold Kaula, Springer Kaye, Edwin Miranda, John Ota, Bill Stormont, Peter Sur, Leanora Swanne, Dwight Vicente, Deborah Ward, and Ross Wilson

I. CALL TO ORDER

Chair Taniguchi called the meeting of the Mauna Kea Management Board (MKMB) to order at 10:05 a.m.

II. APPROVAL OF MINUTES

Upon motion by Gregory Mooers and seconded by Christian Veillet the minutes of the June 20, 2012 meeting of the MKMB were unanimously approved.

III. DIRECTOR'S REPORT

A. Thirty-Meter Telescope (TMT) Conservation District Use Application (CDUA) Contested Case

Director Nagata reported there is still no word on the hearing officer's report.

B. Ant Monitoring Program

Monthly ant trapping continues at Hale Pohaku (HP) kitchen and commons building. Ant monitoring at the observatories and the Visitor Information Station (VIS) will be on a quarterly schedule beginning in September. Monthly monitoring will continue at the Hale Pohaku Commons building. The new schedule is based on discussions with Casper Vanderwoude, an ant specialist with the Hawaii Ant Lab at the Hawaii Department of Agriculture, who believes quarterly monitoring is sufficient.

C. Invasive Species Plan

In August the Big Island Invasive Species Committee, with funding from the Office of Mauna Kea Management (OMKM), hired Springer Kaye to develop OMKM's Invasive Species Prevention, Control and Response Plan. Ms. Kaye will be working full time on the development of the plan. Before coming to OMKM, Ms. Kaye worked as a biologist with the Pohakuloa Training Areas where she worked on invasive species prevention and rare plants.

D. Arthropod Diversity Study

Jesse Eiben continues his study of the diversity of arthropods on the University's managed lands. He is implementing ultraviolet (UV) light trapping to catch night flying insects, in particular, endemic species. The best

conditions for light are under new moon and/or foggy conditions when temperatures are likely to be warmer. With the cooperation of the observatories, Dr. Eiben conducted his first UV light trapping in July during the full moon. The traps were placed on the west side of Pu'u Poliahu and near the Very Long Baseline Array (VLBA.) He did not catch anything that is not observed during the day. The UV light did not have an impact on the observatories. The next light trapping will take place this month between the new and quarter moon phase.

E. Summer Intern

Summer intern, Jessica Kirkpatrick, is working with Fritz Klasner who is coordinating with Springer Kaye on the development of the invasive species plan. She is also assisting Dr. Eiben with his field trials for developing appropriate methods for trapping arthropods in various habitats.

F. Volunteer Day

We had another successful volunteer day on August 11. About 20 volunteers collectively pulled 30 – 40 bags of fireweed. The next volunteer day is Saturday, September 22, 2012. The long-term goal is to prepare for restoration of native plants around the VIS.

The rangers have taken an interest in propagating mamane and planted several seedlings near the VIS which they grew from seeds found around HP.

G. Office of Mauna Kea Management Website and Informational Brochure

The first draft of the web page design template and content has been prepared. We hope to get this up and running within the next few months. The first draft of the informational brochure has also been prepared. This draft is mainly to address content. We are waiting for comments before we begin to make revisions.

H. Visitor Information Station (VIS) Parking

The rangers have reported observing an increased number of visitors driving to the VIS resulting in parking overflow and congestion. Parking data dating back to 2010 was analyzed and shows there has been an increase in cars around the VIS for stargazing. OMKM is planning to do a traffic study to evaluate the current situation to help with designing additional parking and traffic flow.

I. Visitor Information Study Survey

A survey of visitors to Mauna Kea was conducted by the UH Hilo's Sociology Department under the supervision of Professor Alton Okinaka. Preliminary results corroborate the rangers' observations about the increase in the number of visitors. The majority of vehicles did not include anyone from the Big Island, and the ones that did have an island resident included someone who was a non-resident. More than 40% of the vehicles were 4-wheel drive which seems to reflect knowledge about requirements for going to the summit. Only 19% reported being privately owned and 65% were rental vehicles. On two occasions the road was closed due to inclement weather. At first many visitors were irritable, but came to accept the restrictions after the dangers and reasons for the closure were explained to them. Similarly, some visitors challenged the recommendation for using 4-wheel drive vehicles, but later accepted the reasons when the dangers of the road were explained to them. The summer data is still being analyzed, but no major changes are expected.

J. Speed Bumps

Chief Ranger Scotty Paiva is working with the County Department of Public Works to determine the feasibility of installing speed bumps in front of the VIS. There is a concern about cars speeding by the VIS especially at night during star gazing and people crossing the road in the dark.

K. International Alpine and Subalpine Symposium

The tropical alpine and sub-alpine symposium was a great success. There were about 30 speakers and panelists, many of whom traveled from great distances to share their research on tropical alpine ecosystems. The topics ranged from mountain climate change, to evolution in mountain ecosystems, to dynamics of ecosystems found in various alpine ecosystems. There was also a session devoted to research on Mauna Kea. A new network of communication was established among scientists dedicated to the study of tropical alpine and sub-alpine ecosystems, research collaborations are being discussed, and the realization that shared knowledge can play an important role in helping to protect our tropical high mountains including Mauna Kea.

L. Canada-France-Hawaii Telescope (CFHT) – 2013 Workshop

CFHT will be holding a workshop next spring to brainstorm the possibilities for CFHT in the future. The purpose of the workshop is to bring together scientists to discuss possible concepts for the next generation CFHT. CFHT has also stated that their intention is to keep within the existing footprint of their facility.

IV. **KAHU KŪ MAUNA COUNCIL (KKMC)**

Chad Kalepa Baybayan reported the Council reviewed the policies and recommendations for CR-7: Appropriateness of Constructing New Cultural Features and CR-9: Stacking of Rocks. The Council is also requesting Board approval to appoint Shane Palacat-Nelsen to the Council. In reference to the draft Burial Treatment Plan, Mr. Baybayan stated for the record that the Council recommends the treatment of exposed iwi include consultation with cultural and lineal descendants.

V. **Committee Reports**

A. **Environment Committee**

Fritz Klasner, on behalf of Ron Terry, reported the committee has been focusing on the implementation of the various elements of the Comprehensive Management Plan (CMP), and to identify all the research and information gaps in the CMP, especially the Natural Resources Management Plan (NRMP) to communicate those to different elements of the University System to help promote research and understanding of what is up on the mountain. There is a UH Hilo Computer Science class interested in a project to develop a Smartphone application to help identify and report both native and non-native plants species on Mauna Kea. If anyone is interested in volunteering this Saturday, please let him know. There is still space available.

VI. **NEW BUSINESS**

A. **Kahu Kū Mauna Council Nominee**

The Kahu Kū Mauna Council requested the approval of the appointment of Shane Palacat-Nelsen for membership to the Council. Pursuant to the 2000 Mauna Kea Science Reserve Master Plan, the Mauna Kea Management Board is charged with approving candidates for membership to Kahu Kū Mauna.

The Council interviewed Mr. Palacat-Nelsen at its August 14th meeting and approved his nomination. Mr. Palacat-Nelsen has over 30 years of study and practice in hula, chant, and traditional activities including farming, fishing, dye making, and gathering practices. He is active in the community and is a member of various Native Hawaiian organizations including the Association of Hawaiian Civic Clubs.

Action

It was moved by Ron Terry and seconded by Gregory Mooers to approve the nomination of Shane Palacat-Nelsen to the Council. The motion was carried unanimously.

B. **Thirty-Meter Telescope (TMT) – Proposal to Conduct a Geotechnical Study of the Soil Subsurface Underneath its Proposed Telescope Facilities**

TMT is requesting approval to conduct a geotechnical study of the soil subsurface beneath its proposed telescope facilities. The purpose is to obtain information about the layers of rock created by lava flows, soil composition such as ash, cinder or clinkers, and the existence of voids such as lava tubes or cavities. The information will help in the development of the preliminary design of the foundations for the telescope, enclosure and support building, as well as proposed locations of a crane that will be used during construction. This is a study not a construction activity.

TMT is proposing two complementary survey methods for studying the subsurface: A ground penetrating Radar (GPR); and a Multichannel Analysis of Surface Waves (MASW). Neither method involves excavation or ground moving activities.

The GPR sends microwave signals into the ground and measures the reflection of the signal off changes in the ground such as solid lava to cinders, a crack in the rock, or a void in the ground. The energy emitted is about one percent of the power of a cell phone and falls within the range of an FM radio broadcast signal. The GPR consists of taking measurements along survey transects in and around the center of the location of the proposed dome. It is anticipated there will be approximately six to twelve survey sets. The GPR instrument is portable and will be hand carried. The survey points will be located using the commonly used Differential GPS surveying equipment, which is used for surveys for highway construction and staking of home lots. The GPR is used in archaeological studies to discern subsurface conditions and in the location of potential burials.

The MASW consists of creating vibrations in the soil and measuring the reflections of the vibrations off the changes in the ground. The vibrations are created by striking the ground with a sledge hammer through a steel plate placed on the ground. To prevent damage to the rocks, a rubber mat will be placed on the rock with the steel plate placed over the mat. The vibrations are measured by a set of 24 geophones placed along the transect line. The geophones themselves do not send out any type of signal. The location of the survey transects will be similar to the GPR.

To get a full picture of the subsurface TMT is asking that they extend some of their survey points beyond the existing footprint of their site. For the GPR they may need to extend 45 feet beyond the edge of the footprint and for the MASW approximately 75 feet. They will not know until they do their initial set of surveys. To be on the conservative side they are asking for permission to go out as far as 100 feet. There is an archaeological site located above the TMT site, but the 200 foot buffer zone does not intersect the proposed survey area.

Kahu Kū Mauna Council

Kahu Kū Mauna reviewed this study proposal and does not have objections. The Council, however, emphasized that the information obtained in the study be made available to OMKM and the public as proposed by TMT. Further, the Council requested that the data collected be analyzed for the purpose of detecting potential archeological sites, especially burials.

DLNR Permit/Approval

It is anticipated that this study will take approximately two to three weeks to complete. Pursuant to HAR 13-5-22 a permit is not required if it meets the following:

Basic data collection, research, education, and resource evaluation that is temporary (less than thirty days) and results in negligible ground disturbance (small gauges or monitoring devices) and does not involve a land use (e.g., botanical, archaeological, fauna surveys).

CMP Compliance

The proposal has been reviewed for CMP compliance. TMT addressed and/or submitted measures to address appropriate and relevant CMP management actions.

OMKM Recommendation

1. Based on the following, OMKM recommends approval of this study:
 - No excavation or ground movement activities are involved.
 - There are no archaeological sites in the immediate area of the proposed study, and results will be analyzed to verify this finding.
 - The impact to the immediate surroundings is negligible.
 - Study will yield information about the geology of the area.
 - Study will yield information about potential covered archaeological sites, including burials. This will help ensure the validity of the existing OMKM sponsored inventory and proactively identify potential concerns prior to construction.
 - It complies with applicable CMP and sub plan management recommendations.
 - This study is allowed under DLNR Conservation District rules.

Conditions

OMKM recommends the following conditions:

1. TMT shall notify OMKM in writing when it plans to commence activities.
2. TMT shall implement the following measures, as well as resource protection measures described in its proposal:
 - TMT shall avoid using a survey point where plants (e.g., ferns, mosses, lichens, or grasses) are found growing by relocating to an adjacent or nearby spot.
 - TMT shall ensure that loose tools or equipment are not left on the job site at the end of each day by its contractor or by TMT personnel.
 - In the event of high wind conditions precautions will be taken to prevent debris from being blown from the site.
 - All waste material generated will be removed and disposed of properly; all perishable items, including food, wrappers and containers shall be removed at the end of each day.
 - To prevent the introduction of non-native species all supplies, equipment, and vehicles be thoroughly cleaned before being brought to Mauna Kea.
3. TMT shall include in its evaluation of data potential archaeological sites, including burials.
4. TMT shall allow OMKM rangers to visit and monitor activities.
5. TMT shall notify OMKM in writing when it has completed the study.
6. TMT shall make available to OMKM data in an unrestricted (public domain) format, including industry standard metadata, collected from this study.

Discussions

Dr. Terry asked if spike mounted or platform mounted geophones would be used. Paul Gillett replied they will typically use platform mounted devices except where there is enough soil then the spike would work. Dr. Terry also asked that Don Thomas and Jim Kauahikaua be consulted prior to the study. Lisa Hadway agreed and was curious if this technology had applicability in looking for permafrost or water. Dr. Terry then asked if it was realistic to avoid all plants including lichens as stated in the conditions. Mr. Gillett replied that it was.

Mr. Mooers asked what steps would be taken if TMT finds a void. Director Nagata stated if there is a potential burial then we would consult with SHPD as to how to proceed because our burial treatment plan has not yet been finalized or approved by the Burial Council.

Cory Harden asked if something is discovered would it change some of the conclusions in the environmental impact statement (EIS) or the conservation district use permit (CDUP). Director Nagata replied if the results show it is not stable we would have to revisit this, but we will wait for the data to see what needs to be done before TMT moves forward. TMT can move forward with the study, but cannot move forward with construction unless they have a permit.

Hanalei Fergerstrom asked how deep the GPR is capable of penetrating. Mr. Gillett replied the GPR will probably go about 30 feet and could go as much as 60 feet. The MASW potentially can go deeper. However, they do not believe that they are going to get any more than 30 – 60 feet.

Edwin Miranda inquired if the GPR equipment can be used on this type of soil and if TMT had an idea of how fast they might be moving through a track of certain soils. Mr. Gillett was not sure he could answer the question. It is common to use the GPR and MASW for a variety of circumstances. It has been done on the summit of Mauna Kea before. For example, Gemini did GPR on the summit in the early 90s where their facility is now. Mr. Miranda believes moving equipment such as the GPR on certain slopes is likely to create some sort of ground disturbance. He is a former soil conservationist and has some idea of the soils on the mountain. He has walked on the mountain and believes he knows the type of soils where burials are likely to occur.

Mr. Gillett commented that this area is a lava flow and basically hard rock and not loose cinders. He confirmed that the survey area would only be for the proposed TMT site and not the whole mountain.

Action

It was moved by Ron Terry and seconded by Herring Kalua to accept OMKM's recommendation to approve this study and allow the applicant to proceed with additional conditions as amended. The motion was carried unanimously.

- C. **Preliminary Working Drafts of CR-7 and CR-9 of the Comprehensive Management Plan – Information Only**
As called for in the CMP, which was approved by the Board of Land and Natural Resources in 2009, Director Nagata discussed with Kahu Kū Mauna on the following items:

CR-7: Kahu Kū Mauna shall take the lead in determining the appropriateness of constructing new Hawaiian cultural features.

We looked at: 1) Conservation District Rules and the definition of "land use" which includes the placement or erection of any solid material on land if that material remains on the land more than thirty days, or causes a permanent change in the land area; Natural Area Reserves (NAR) policy which prohibits removal, damage, or disturbance of any geological or paleontological features or substance; or to engage in any construction or improvement; and Historic Preservation law which states it is a civil and administrative violation for any person to take, appropriate, excavate, injure, destroy or alter any historic properties.

Taking DLNR policies into consideration, it is suggested that new cultural features can be placed on Mauna Kea, but there should be a system where an individual would notify the Office. The purpose for a system is to know where they are located to protect them as opposed to someone who is just putting up something with no purpose or cultural reason for doing so.

Suggested guidelines for erecting and maintaining new cultural features:

1. New features be placed about 100 yards from the road to prevent copycat activities.
2. New features can be made of natural materials from the area, but they cannot take materials from existing

historic sites.

3. They are to be maintained by those who erected them.
4. If any of these features has been disturbed or damaged, we will notify the individual(s).
5. If the individual(s) do not respond to OMKM or cannot be reached, we will have the opportunity to remove these features after 60 days.
6. We will not allow soil, sand, animals or animal parts, or any seed-bearing plants.
7. Man-made articles or any floral items left at the site will be removed after 10 days.

CR-9: A management policy for cultural appropriateness of building ahu or “stacking of rocks”

In discussions with Kahu Kū Mauna it is believed that creating ahu is based on traditions and is a cultural site. Therefore, ahu should not be included in CR-9, but rather the simple act of stacking of rocks should be included and that it not be permitted. There is concern about copycat behavior. We do not wish to see something that is happening in Kona (e.g., white coral on black lava creating designs), nor do we wish to see people moving rocks around to create a design. This has occurred on the summit. Those types of activities should be discouraged.

The next step is taking these talking points out to the Native Hawaiian community for their comment and input.

Discussions

Mr. Miranda asked if these features will be basically Hawaiian type of features. The mountain is attached to Hawaiians and he cannot see anything else, like putting a Portuguese sweetbread stove up there. He suggested keeping it only to Hawaiian cultural things. Director Nagata stated they have defined cultural features as Native Hawaiian cultural features. Dr. Terry understands that this would not allow tourists to come up there and create their own site.

Mr. Miranda asked if other rocks will be allowed to come onto the mountain, such as from the beach. He does not think that would be an appropriate thing to do. It might confuse history 300 years from now. Mr. Baybayan, as a representative of Kahu Kū Mauna, stated it is the policy of the Council not to allow any type of foreign rock to be introduced.

Tom Chun, currently a teacher of physics and astronomy and a Native Hawaiian, stated what he is hearing is respect for our kupuna. He also recognizes our culture is dynamic and if there are people who have a reason to go up and create an ahu we should not say our culture ends here. However, the problem is in the permitting process and who is going to enforce it. Director Nagata thanked Mr. Chun for his comment and stated we would be more than happy to have him participate because these are the kind of comments we would like to have addressed. She added we are also in the process of developing administrative rules for Mauna Kea.

Pua Case stated whoever is doing this geotechnical study to please make sure they have an accurate and comprehensive map of actual sites in the area. If she feels the ahu needs to be up there and she feels the mana and the mountain is telling her to do so, she will follow what the mauna tells her.

Chair Taniguchi asked Ms. Case, “If a tourist from Minnesota comes, puts up rocks over there and stacking it in any way, would that be okay with you?” Ms. Case’s response was if Poliahu or Mo‘oinanea or Wākea told that person to do that then it would be alright with her. Chair Taniguchi stated what we are trying to stress is the issue of avoiding copycat behavior. Chair Taniguchi stated we respect what you want to do, but when somebody from New York or Minnesota comes and sees what you did and copies that, is that okay with you? He felt it would be disrespectful of her and what she was doing.

Mr. Miranda felt Ms. Case brought up a good point. The spirits talk to everybody or it talks to only a few of us. If they are going to do any of these things, he feels that OMKM should document who is putting things up there, approve it, including the site selection, as well as the person’s intent. Some might slip through the cracks, but at least we would know who these people are and whether it is mana or just fashionable. Mr. Fergstrom felt there may be occasions when ocean rocks need to go up to the mountain. Certainly we can work within some kind of framework.

Mr. Baybayan stated the recommendation was to move the word ahu to CR-7 which covers cultural features. There is a distinction between the stacking of rocks and the construction of a cultural feature.

Dr. Terry stated this is an information only item and we are not taking action on this. This is a first draft and this meeting illustrates the need for a lot of voices to be heard. He would encourage the Office to have good outreach for this and invite comments.

Herring Kalua stated it is very important the community has an opportunity to provide input. He is thankful for Mr. Fegerstrom's statement about bringing up ocean rocks. He knows they have the mana to do it. He is starting to see our ohana stepping forward and beginning to educate all of us. He is honored to be raised by his grandparents and great-grandparents on both sides of the family from all over this island. He really wants to help to make it right. When it is all okay, then we will be pono. We understand we need to respect the lineal history on the mountain.

D. Preliminary Draft of the Burial Treatment Plan (BTP) – Information Only

Director Nagata stated the Office is working on a Burial Treatment Plan. This Plan was introduced to the Hawaii Island Burial Council (HIBC) earlier in June. There were comments made by the members of the Council which are being incorporated into the Plan. Also at the meeting there was discussion on what to do with exposed iwi. This matter was discussed with Kahu Kū Mauna which feels the BTP needs to involve consultation with lineal and cultural descendants. As of today no one has stepped forward, but we understand SHPD is reviewing applications for cultural and lineal descendants. In the meantime, we would like to ask the HIBC to allow us to cover the bones as a temporary measure until the BTP is approved. We do not anticipate the BTP will be finalized until we have an opportunity to consult with not only cultural and lineal descendants, but also with the Office of Hawaiian Affairs (OHA) as called for in the CMP.

This BTP is a requirement of the CMP. Unlike most burial treatment plans which describe how to handle and protect burials and presumed burials, the CMP also requires that the BTP contain provisions on how to deal with inadvertent discoveries. It is proposed that if we were to encounter an inadvertent discovery we would consult immediately with SHPD on what needs to be done.

Patricia Bergin heard an earlier comment that individuals who cover exposed iwi should be cultural practitioners. Is there an opportunity for that to occur in the interim plan? Director Nagata replied no because we do not know who these cultural and lineal descendants are.

Mr. Miranda cited a Hawaiian curse, "may your bones rot in the sun" as a reason for covering up iwi. He likes the idea that lineal descendants should be consulted. Mr. Miranda commended OMKM for presenting a draft of the BTP to the Council; it is well written and one of the better ones he has seen.

Ms. Ward inquired if the advertising for the lineal descendants was broader than this island. Director Nagata replied yes. It was published in the Star Advertiser as well as the Hawaii Tribune Herald and the West Hawaii Today. It was also published in the OHA newsletter.

VII. ANNOUNCEMENTS

Dwight Vicente, representing the Hawaiian Kingdom, questioned the validity of general lease S-4191 citing the Northwest Ordinance of 1787 which does not give the State of Hawaii authority over these lands.

John Ota voiced his concerns about UH Hilo's activities taking place of Mauna Kea stating they were desecrating the mountain, showing a lack of respect for others, the culture and tradition. He felt UHH was also the principal cause of the disappearance of the water in Lake Waiiau. He also felt that the hammer driving used during telescope construction caused vibrations producing cracks in nature made materials and the disappearance of stacks rocks that identify burials.

Ms. Case lives in Waimea and looks at the mauna every day. She feels it is a desecration to build 18 stories on the plateau. She can never look at her mauna and pule in the same way once that building is up there because she did not stop it. She is for the mauna and for her the mauna said no and to try one more time to stop this.

VIII. NEXT MEETING

The next meeting date is either November 14th or November 28th. The Office will consult with Regent Chair Eric Martinson for his availability. Board members will be informed.

IX. ADJOURNMENT

There being no further business Chair Taniguchi adjourned the meeting at 11:46 a.m.

Respectfully submitted:

Signed by Dr. Ron Terry
Dr. Ron Terry, Secretary, MKMB

12-5-12
Date