



University of Hawai'i at Hilo

640 N. A'ohoku Place, Room 203, Hilo, Hawai'i 96720

Telephone: (808) 933-0734 Fax: (808) 933-3208

Mailing Address: 200 W. Kawili Street, Hilo, Hawai'i 96720

**Minutes  
Regular Meeting**

Mauna Kea Management Board  
Tuesday, February 10, 2015

Department of Hawaiian Home Lands  
Kūhiō Hale  
64-756 Māmalahoa Highway  
Kamuela, Hawaii 96743

**Attending  
MKMB:**

Chair Gregory Mooers, 1st Vice Chair Herring Kalua, Gregory Chun, Roger Imoto, Douglas Simons and Hannah Kihalani Springer

**BOR:**

Barry Mizuno

**Kahu Kū Mauna:**

Shane Palacat-Nelsen

**OMKM:**

Wally Ishibashi, Fritz Klasner, Stephanie Nagata, Dawn Pamarang, Amber Stillman and Joy Yoshina

**Others:**

Pua Case, Tom Chun, Heather Forester, Tammy Harp, Stewart Hunter, Hāwane Rios, J. Leina'ala Sleightholm, and Ross Wilson, Jr.

**I. CALL TO ORDER**

Chair Mooers called the meeting of the Mauna Kea Management Board (MKMB) to order at 10:12 a.m.

**II. APPROVAL OF MINUTES**

Upon motion by Hannah Springer and seconded by Herring Kalua the minutes of the November 25, 2014, meeting of the MKMB were unanimously approved.

**III. DIRECTOR'S REPORT**

**A. Thirty-Meter Telescope (TMT) Conservation District Use Permit (CDUP) Appeal**

The appellants submitted their opening brief to the Intermediate Court of Appeals on January 14, 2015. The deadline for the University to submit its response brief is February 24, 2015.

**B. Department of Hawaiian Home Lands (DHHL)**

At its December 2014 meeting, the Department of Hawaiian Home Lands commission approved in concept the granting of right of entry for University of Hawaii (UH) permitted commercial tour operators to use the Humu'ula sheep station as a picnic area to serve their customers dinner before going up to the Visitor Information Station (VIS). The commission requested that staff develop an operation plan for the use and maintenance of the sheep station, cost analysis and usage charge. DHHL staff proposed to present their operations plan for approval at February's commissioner's meeting.

This partnership benefits both DHHL and the University. Fees charged to commercial tour operators by DHHL will generate revenues that will help launch their Aina Mauna Legacy Plan. The University benefits from a reduction in the overcrowded conditions resulting from commercial tour passengers occupying all available sitting areas both inside and outside the VIS while consuming their dinners.

**C. James Clerk Maxwell Telescope**

On February 28, 2015, the ownership of the James Clerk Maxwell Telescope will officially transfer to the University. As the owner of the facility, the University is responsible for the eventual decommissioning of the facility according to requirements of the Decommissioning Plan.

**D. Master Lease Environmental Impact Statement**

The University submitted an Environmental Impact Statement Preparation Notice (EISPN) to the Office of Environmental Quality Control for publication in its January 8th *Environmental Notice*. The purpose of the EISPN was to inform the public that the University is preparing an Environmental Impact Statement (EIS) related to the University's long-term lease alternatives for the lands it currently leases or holds and easement. The alternatives that the EIS will be evaluating includes a no action alternative in which the current master and mid-level leases, and the road easement would expire in 2033 and all facilities on the summit are removed; a second alternative in which the Science Reserve and Halepōhaku mid-level facilities are granted new 65-year leases along with an extension of the road easement; and a third alternative which is the same as the second alternative except the master lease would be only for the Astronomy Precinct and perimeter buffer zone instead of the entire Science Reserve. In addition, the Preparation Notice includes a summary of the description of the cultural and natural resources, likely outcomes and potential impacts to the resources under the three alternatives.

Last week the University held open houses in Honolulu, Waimea and Hilo where the public could review and comment on the alternative actions and potential outcomes and impacts; and provide comments/suggestions on the scope and breadth of the EIS and whether the University considered all potential impacts. For those unable to attend the open houses, written comments can still be submitted to the Office of Maunakea Management.

Hannah Kihalani Springer asked how this aligns with or is there any alignment with the Comprehensive Management Plan (CMP) review? Director Nagata replied the EIS will look at current management as well as management that would occur under the three alternatives. If we have the new leases then the comprehensive management would continue. Ms. Springer asked if it is available for public review and comment. Director Nagata replied the CMP is available to view and download from our website. The University would like to receive comments as soon as possible as they are in the process of developing the EIS.

**E. Economic Impact of Astronomy**

Last fall, the University of Hawaii Economic Research Organization published its study of the economic impact of astronomy in Hawaii. Using 2012 data, the total astronomy-related expenditures in the State of Hawaii was \$88 million with the greatest expenditures of \$58.4 million in Hawaii County, followed by \$25.8 million on Oahu and \$2.58 million on Maui. Expenditures include purchases from local businesses, payments to employees and spending by students and visitors. The astronomy sector had a total impact of \$167.86 million statewide with the largest impact found on the Island of Hawaii of \$91.5 million. The study also showed that astronomy activities generated \$52.3 million in earnings, \$8.2 million in state taxes and generated 1,394 jobs statewide.

**F. Arctic, Antarctic, and Alpine Research Journal**

The November 2014 publication of the *Arctic, Antarctic, and Alpine Research* journal featured a special issue which included a section on the research papers presented at the 2012 International Tropical Island Alpine and Sub-alpine Symposium held in Waimea. This symposium was sponsored by the Office in collaboration with UH Hilo's Department of Geography and Environmental Studies with support from the Gordon and Betty Moore Foundation. The purpose of the symposium was to gain a global perspective on the current state of atmospheric and terrestrial science relative to tropical island high mountains and how they might inform better management.

**IV. KAHU KŪ MAUNA COUNCIL (KKMC)**

Shane Palacat-Nelsen reported the Council reviewed the Invasive Species Management Plan at their last meeting. The Council supports the Plan through the cultural perspective and asked for more clarification of the implementation and enforcement of the Plan because it was not clearly stated. The Council also continues to work on filling of vacant seats on the Council. They are also working on the cultural perspective of the Comprehensive Management Plan as well. They hope to have Herring Kalua attend some of those meetings.

**V. Committee Reports  
Environment Committee**

The committee met in late January. Roger Imoto deferred the report to Fritz Klasner.

Mr. Klasner stated the 5 year review of the Comprehensive Management Plan applies to its sub plans also. The committee discussed the update of the Natural Resources Management Plan (NRMP) focusing on either condensing the

entire plan or adopting minimal, but much needed changes in specific parts of the Plan. The consensus seemed to be the strategic edit was the more efficient way.

Previously it was reported a snail was captured at Halepōhaku. That snail has been identified as a native *Succinea konaensis*, which has been found on the mountain before.

No new invasive species threats have been identified.

In early January, Israel Stillman, a Kamehameha School senior, planted the seeds he had collected. There are now 300 māmane, 300 Pua Kala, a couple of flats of Pili Uka and some other plants. Hopefully in six months we will have some plants to put in the ground in the Halepōhaku area thanks to Israel and his Kamehameha Schools senior legacy project.

Jesse Eiben also found a new *Nesosydyne* leafhopper species on *Geranium cuneatum*. Haleakala has a similar species of *Nesosydyne* on *Geranium*, but this species seems specific to Maunakea.

Xiaoyu Zhang, OMKM librarian, obtained a loan of Alfred Woodcock's papers. Mr. Woodcock worked in Hawaii in the 1950s, 60s and 70s based in Manoa and was the one that discovered permafrost on Maunakea and also did some of the early scientific research on Lake Waiau. A portion of his papers are archived at State University New York in Albany. Ms. Zhang is copying the Hawaii-specific papers for the OMKM library. Once that is complete it will be available through the OMKM library. This would not have happened without Jim Kauahikaua's input and Xiaoyu making the contact.

Megan Nakamoto's science fair project was working with Dr. Jesse Eiben on "Arthropod diversity and abundance difference on curled unhealthy and healthy Māmane leaves at ~8,500 feet on the south slope of Maunakea." She did very well at the District Science Fair this weekend and won best in her subject category of environment sciences and numerous other awards.

## VI. OLD BUSINESS

### A. Maunakea Invasive Species Management Plan

#### Purpose and Objective

The Maunakea Invasive Species Management Plan, in fulfillment of the 2009 Comprehensive Management Plan (CMP) goal NR-2, "Limit damage caused by invasive species through creation of an invasive species prevention and control program", along with the following five appendices which addresses additional details necessary to define elements of the Plan were reviewed by the Board:

1. SOP01 Cleaning of Vehicles and Personal Belongings
2. SOP02 Inspection of Vehicles, Construction Materials, Scientific Equipment & Supplies
3. SOP03 Cafeteria Food Shipments (Receiving)
4. SOP10 Invasive Invertebrate Early Detection Surveys of Facilities
5. SOP-C Maunakea Invertebrate Threats, Identification, Collection & Processing Guide

This version incorporates all comments received after the plan and appendices were distributed in November 2014 and again in January 2015.

#### Background Information

1. The Plan reflects adaptive management principles of the CMP and will be updated as needed.
2. Additional appendices are in preparation and will be submitted for review to the Environment Committee, Kahu Kū Mauna and other experts prior to being forwarded to the MKMB.
3. There is no fixed revision schedule.
4. Routine status updates on the Invasive Species Plan implementation will be provided to the Board at future meetings.
5. The Plan establishes a standing 'Emergency Response Committee' which includes the chairperson of the Board and a representative from Kahu Kū Mauna (or their designees) in the event that a new invasive species threat is detected.
6. Changes since the previous version distributed to the Board are predominantly grammatical and spelling corrections. Versions identifying changes are available upon request.

#### Kahu Kū Mauna Council

Kahu Kū Mauna reviewed this plan at their January 20, 2015 meeting. The Council supported the plan with the caveat that additional detail was needed regarding staff training and implementation for the identified actions. The

Plan submitted here identifies a pending appendix (SOP) addressing the concerns identified. The Council indicated this was an acceptable solution to their concerns and the pending appendix was not a precondition to submitting to the Board.

#### Department of Land and Natural Resources (DLNR)

DLNR staff received copies of this plan for review and comments received are incorporated. The Office of Coastal and Conservation Lands (OCCL) indicated they do not wish to approve elements of the Plan not otherwise required under Hawaii Administrative Rules. At this time, no elements of the Plan or appendices trigger a process requiring OCCL approval under Hawaii Administrative Rules.

#### Discussions

Ms. Springer asked about the SOP for cleaning of vehicles and personal belongings emphasizing the statement that the SOPs do not apply to the load or delivery. Are those examined anywhere at any time? Mr. Klasner replied the cleaning requirements as they are written now target the vehicle itself typically, but also personal belongings. The intent with that is deliveries are expected to be clean. Many deliveries do not need cleaning, per se, especially the scientific equipment where the cleanliness standards for astronomy purposes far exceed invasive species concerns. That is something we can clarify in a grammatical sense.

Ms. Springer asked if this is all the University's kuleana or if the Department of Agriculture gets involved in inspections. Mr. Klasner replied the Department of Agriculture does not get involved in the inspections unless it is an international shipment in which case federal regulations would apply. This would be in addition to any U. S. Department of Agriculture requirements.

Ms. Springer inquired if there were staff available to provide inspections. Mr. Klasner replied yes, there is. The list of inspectors include anyone with the State agricultural inspection program, a few Big Island Invasive Species Committee staff, a few of the Hawaii Ant Lab staff and several OMKM staff.

Chair Mooers commented that the Plan contains a table regarding options for risk prevention indicating the regulated pathways and low cost, moderate cost and high cost alternatives. What determines which would be applied? Mr. Klasner replied it is our tolerance for risk. There is no fail safe method to eliminate all risks on the mountain. The way the Plan is written is if we learn more and find that we are not comfortable with the level of risk, we can always change it.

Doug Simons congratulated the Office and Mr. Klasner for a well written document. Dr. Simons asked about the policy regarding observatory vehicles that essentially remain on the mountain all the time. What do we need to do to remain compliant with those? Mr. Klasner stated there are basically 3 types of vehicles: 1) permanent vehicles that stay up at the summit - the equipment does not need to be cleaned. If it comes down, then it can get cleaned. The vehicle cleaning requirement is monthly, but does not need to be cleaned monthly if it just stays up there for a period of time. 2) Vehicles that go between the summit and Halepōhaku and do not go below Halepōhaku should just get cleaned at Halepōhaku once a month. 3) Vehicles that go below Halepōhaku should get cleaned in town.

Dr. Simons commented a good topic to discuss for the observatories and Maunakea Support Services is to figure out what is the most cost effective way of cleaning vehicles at Halepōhaku. It costs money to haul water up to Halepōhaku as it costs money to bring the vehicles down to run them through a carwash every month. Mr. Klasner stated an action item in the Comprehensive Management Plan is to study the feasibility of having a car wash facility.

Dr. Simons inquired on the strategy if an invasive species was found in Lake Waiau. Mr. Klasner replied we monitor the lake because we are up there and we are interested. Technically the lake is managed by the Department of Land and Natural Resources as part of their Natural Area Reserves (NAR) program. The Office has no management authority or jurisdiction over the lake. We work closely with the NAR staff. If we were to find something up there we would inform the NAR staff and ultimately it is their decision on what they want to do or not do.

If we find a new species that is a threat, there is an emergency response committee which involves a representative from the Maunakea Management Board, Kahu Kū Mauna Council, Big Island Invasive Species Committee, OMKM, and DLNR to come up with a plan for immediate action.

Chair Mooers asked about the constraints with the Hawaii Administrative Rules regarding the use of pesticides and which Chapter it was. Mr. Klasner replied it was in Chapter 13-5, DLNR rules. Essentially, when it comes to conservation district lands and the resource use classification that we are in, it singles out the University as having to

do Section 343 compliance to use pesticides on Maunakea. Chair Mooers commented that most 343 compliance issues like this will have a list of exemptions. It is something we can review with DLNR to see if there is an exemption that exists currently that would apply.

Tom Chun inquired what is the main vector for all the invasive species coming up? Man - people. That is something to consider. How do we regulate the main vector for invasive species, which would be man?

Mr. Klasner replied education and outreach for the general public is the best way right now until administrative rules are obtained.

Action

It was moved by Gregory Chun and seconded by Herring Kalua to accept and approve the Plan and the 5 Standard Operating Procedures. The motion was carried unanimously.

Discussion

Dr. Gregory Chun clarified that in the future, as the rest of the SOPs are developed, they will be brought to the Board for review and approval. Mr. Klasner confirmed that is correct.

**B. 3D Maps Outreach**

Amber Stillman gave a presentation on her 3D maps used for outreach and educational purposes which are also on the OMKM website. The maps presented were 1) general overview of the mountain looking north, 2) the astronomy precinct, and 3) Halepōhaku. The purpose of these maps are to serve as an alternate for visitors to experience the mountain's fragile resources from afar, while still preserving its majesty for future generations. Visitors can enjoy the mountain remotely while avoiding the unwelcomed side effects of Maunakea's harsh and unforgiving environments.

Ms. Springer asked if there was any thought on adding Humu'ula to the map? Ms. Stillman replied there was no suggestion made, but it can be added on. Ms. Springer stated it might be helpful with future plans of Humu'ula sheep station being used for commercial operations.

Ms. Springer also asked if it was possible to make a cultural landscape map with only general regions and details on pu'us.

**VII. ANNOUNCEMENTS**

There were no announcements.

**VIII. NEXT MEETING**

The Board will be polled to determine the next meeting date.

**IX. ADJOURNMENT**

There being no further business Chair Mooers adjourned the meeting at 11:08 a.m.

Respectfully submitted:

Signed by Dr. Gregory Chun  
Dr. Gregory Chun, Secretary, MKMB

5/5/15  
Date