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**Minutes
Regular Meeting**

Mauna Kea Management Board
Tuesday, March 6, 2007

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

Attending

MKMB: Chair Rob Pacheco, 1st Vice Chair Barry Taniguchi, 2nd Vice Chair Ron Terry, Patricia Bergin, Herring Kalua, and Harry Yada

Kahu Kū Mauna: Ed Stevens

OMKM: Stephanie Nagata, Dawn Pamarang, Ululani Sherlock, and William Stormont

Others: Doug Arnott, Kenyan Beals, David Byrne, Steve Businger, Cory Harden, Arthur Hoke, Mike Maberry, Cindy Nomura, George Nystrom, Christian Veillet, and Debbie Ward

I. CALL TO ORDER

Chair Rob Pacheco called the Mauna Kea Management Board (MKMB) meeting to order on March 6, 2007, at 10:00 a.m.

II. APPROVAL OF MINUTES

It was moved by Harry Yada and seconded by Barry Taniguchi that the minutes of the January 16, 2007, meeting of the MKMB be accepted. The motion was carried unanimously.

III. DIRECTOR'S REPORT

A. Legislative Session

Director Stormont reported attending the opening day at the legislature on January 17. The Hawaiian Caucus expressed interest in a visit to the mountain.

B Pan-STARRS Project

Scoping meetings for the Environmental Impact Statement were held on the Big Island, Maui, and Oahu. There was much discussion about a comprehensive management plan discussed in Judge Hara's recent final order pertaining to the appeal of the Conservation District Use Permit (CDUP) for the Outriggers project. There was also constructive discussions with the community that will help Group 70 with the preparation of a draft Environmental Impact Statement.

The Design Review Committee is being assembled. The Office is awaiting confirmation regarding the representative from the Kahu Kū Mauna Council.

C. Thirty-Meter Telescope

Director Stormont attended a meeting on the 30-Meter Telescope (TMT). Those involved in the TMT were putting together a project timeline. The management plan was discussed and Director Stormont indicated we would like to have that management plan out by late 2007, early 2008.

Barry Taniguchi stated he heard at another meeting that OMKM reported that the management plan would be completed by the end of the year or early next year and was uncomfortable about the Director's statement concerning the projected timeframe for completion of the management plan. By making such a commitment and not being able to meet it, the University will be criticized for failing again, and OMKM will be held responsible. If it is going to take longer than that, we should state it is going to take longer than that.

There was mention that we do not know the scope and authority of the management plan. The Office and the Board needed guidance regarding the plan and how the different components are going to fit together, how it relates to the Master Plan's objectives and Judge Hara's ruling. It was suggested, and Director Stormont agreed to put the management plan on the agenda at a future meeting with charts, tables, and Venn diagrams.

A question was asked whether OMKM was officially given the responsibility for preparing the management plan. Seems we are progressing as if it is our responsibility. Has there been any discussion with the Department of Land and Natural Resources (DLNR). Director Stormont thought it was a System decision and not IfA, but it is assumed OMKM is responsible for it, but we do not have anything in writing.

The lack of clarity regarding who is responsible for what is a long standing issue. There is also a UH credibility issue and it is believed that the Board and Office was to provide the effort towards restoring some credibility. It was suggested if no one is told to take responsibility, take it carry it out. It was also suggested sending a letter to the senior administration asking for confirmation. Director Stormont was asked to get clarification from the System.

Director Stormont will try to arrange to have a representative or someone come and brief the Board on the TMT project at the May meeting. The purpose is informational only.

D. Memorandum of Understanding (MOU)

Director Stormont reported he has not done any further work on the MOU between DLNR and the University.

E. Mauna Kea Support Services Transfer

Director Stormont reported a proposal has been discussed and senior administration indicated it could be done. It was a matter of a stroke of a pen. There still are personnel matters to sort out. There has been no recent discussion with the senior administration.

Chair Pacheco asked if this matter was being worked on and whether it would be helpful if members of the Board met with Jim Gaines. Harry Yada and Ron Terry volunteered. Director Stormont would arrange a meeting by the end of March.

IV. COMMITTEE REPORTS

A. Kahu Kū Mauna Council

Ed Stevens reported that the terms for Pua Kanahale, Reynolds Kamakawiwo'ole, and Kaleo Kualii'i expire on June 30. OMKM will be posting an ad later this month seeking applicants.

Debbie Ward asked Mr. Stevens if he was comfortable with OMKM selecting representatives to sit on Kahu Kū Mauna. Mr. Stevens explained that OMKM does not select Council representatives. The Office does the posting for us, receives the applications and resumes, and then forwards it to us for review. The Council reviews the applications and makes recommendations for the Board to approve. He is comfortable with the current process.

B. Environment Committee

Dr. Terry reported they are working on the natural resources component of the management plan. He wanted to clarify, for the record, that this natural resources management plan began before there was any court decision ordering the University to do this. However, we have been dragged into the current controversy generated by the recent court decision. The committee is willing to contribute but we are not under court order to prepare this management plan.

It was important to note this distinction. The Office and Board recognized the need for and wanted an overall management plan, but now with this court decision, there is the perception that we are doing the management plan so that the University can get through that CDUA process. The purpose for this is not for the facilitation of the permitting process, it is about managing the mountain. Telescopes are a recognized component and part of the activities on the mountain. While they are the primary impact on the mountain they are not the focus of the plan.

Mike Maberry commented there seems to be a loose definition of a comprehensive management plan. Further, he believes the University would want OMKM/MKMB, the designated managers, and not another entity within the system to prepare the management plan.

Everyone was reminded that when the Board of Regents (BOR) adopted the Master Plan, it called for the creation of MKMB and OMKM as advisory bodies. They were not given any authority, but the MKMB has always maintained from the beginning that it should, but has never been granted that authority. This issue needs to be resolved. The BOR should consider revising the Master Plan regarding the responsibilities of the Office and MKMB. Mr. Taniguchi believes the MKMB should be reporting either directly to the President or to the BOR. The current organization is convoluted where OMKM makes a recommendation which is then forwarded up the chain to the UHH Chancellor, President and BOR. Chair Pacheco added it would be in IfA's interest to push this forward within the system, because everything is just going to unravel if there is no real authority and management by a community-based board.

Mr. Maberry (asked to speak not as an IfA employee) also commented that the comprehensive management plan is required for all Board of Land and Natural Resources (BLNR) permits. Mr. Taniguchi added the management plan is in accordance with DLNR regulations, but DLNR will not change its regulations, leaving UH in a bind because nobody can define what a comprehensive management plan is, including Judge Hara. It is going to take time because we will need to talk to those opposing development on the mountain about the contents of the comprehensive management plan.

Mr. Hoke agreed OMKM needs teeth, and right now it does not have any. He disagrees with the Senator Lorraine Inouye's approach to make it like the Tourism Authority, but it should be apart from the University. Ms. Ward stated the judge's order includes all land uses.

C. **Hawaiian Culture Committee**

Herring Kalua reported the committee met on February 28. At the meeting Mr. Kalua expressed his concerns and raised some questions pertaining to the committee. Hopefully, they will try to resolve some of those questions and concerns at the next meeting.

V. **OLD BUSINESS**

A. **Office of Mauna Kea Management's (OMKM) Request to Install Weather Stations on the Summit**

(See Appendix A, Proposal to Install Temporary Weather Stations on the Summit)

Purpose

Associate Director Nagata explained the purpose for installing the weather stations is based on the belief there is a strong relationship between the summit's microclimate and distribution of the bug. The study will look at how terrain influences wind turbulence and the spatial distribution of snow and wind-blown food resources. Data from the study will be used by the Office to develop appropriate bug management programs.

The Wekiu Bug Scientific Committee recommended that we fund the project which will result in the development of a model that will help us to identify areas that are conducive to the bug.

Kahu Kū Mauna Council's Position

Mr. Stevens stated this project was brought before the Council at its January 11 meeting. After considerable discussion, the Council felt this would have an impact on the mountaintop and the cost would be losing more ground in protecting the mountain. The Council's position:

1. *Any new installation in the summit area of Mauna Kea, no matter how small or insignificant it may seem, adds further to the proliferation of things already on the mountaintop.*
2. *Even these small things, when added to the other intrusions, have an overall cumulative impact—negative effect on the cultural and spiritual essence of our sacred mountain. In our view, it is unthinkable to consider the introduction of any man-made object or device inside the craters of cinder cones, particularly cinder cones within the Mauna Kea Science Reserve and Natural Area Reserve.*

Mr. Stevens stated this project proposes to put something new on the summit, particularly summit cinder cones which they hold in high reverence and which has suffered extensive damage. Any manmade object that is put inside the crater is an absolute intrusion, and they are opposed to it. Even though this project is temporary, there was

concern that this could set a precedence. The Council suggests developing a policy and guidelines that would protect all cinder cones from future exploitation.

Mr. Stevens asked the Board to carefully consider their vote and to weigh the Council's position. As the Board's advisory council their recommendations are made with a lot of thought toward preserving what is left up there. The Council does not have a problem with adding things to existing buildings since they are already there. The introduction of new things must be carefully thought through, no matter how small, and even if it is beneficial for the wekiu bug.

Project Classification

OMKM recommends the *installation of the weather stations* be classified **MINIMAL IMPACT**. OMKM's recommendation is based on the following:

- The proposed installations will not significantly alter the areas proposed for the installation of the weather stations
- The physical impact to the immediate surroundings and summit region is minor.

Mitigation Measures

- OMKM understands and appreciates the cultural significance of the summit, in particular the summit craters to Native Hawaiians. OMKM also understands Kahu Kū Mauna's position that regardless of how small or insignificant, the installation of manmade objects into new undisturbed areas, in particular summit cinder cones, is an intrusion. Pursuant to the Master Plan, OMKM's mandate is to protect and preserve not only the cultural, but also the natural resources. OMKM will install the weather stations with the least amount of impact.
- The installation of the weather stations is temporary and will be in place only for the duration of the study.
- Upon completion of the study, all equipment, concrete, and containers will be removed and properly disposed and sites restored to its original condition.
- Wēkiu bug habitat will be avoided when accessing the data loggers.
- Access to retrieve the data loggers will be over ground that is least likely to leave a visible trail. Rangers will be retrieving the data loggers and they are knowledgeable about the best way to approach and access the sites.

Conditions

- OMKM will closely supervise the installation and dismantling of the weather stations.
- OMKM will adhere to the mitigation measures described above.

Discussion

Dr. Businger stated he is very respectful of Native Hawaiians' position. If the decision is no, it does not mean that the project is stopped. The reason why these sites were chosen is because in order to properly understand the distribution of snowfall and bug fall, which are the two environmental controls for the wekiu bug, they need to know exactly what the difference is in the wind speed on the upslope side of the summit and in the crater. This is necessary in order to be able to simulate this with a model and get a full understanding of the three-dimensional distribution of these variables. If the monitoring in the bottom of the crater is not done it will not be known whether their model is giving the correct answer or not. It leaves an ambiguity that will not put them in a position where we will be as certain regarding what those environmental controls are.

George Nystrom, Interim Operations Director, Smithsonian Astrophysical Observatory Submillimeter Array (SMA) suggested telemetering the data to avoid checking the sites monthly. Dr. Businger replied it is possible, but telemetering data requires using electromagnetic radiation which can interfere with observations. Dr. Nystrom suggested doing it during periods when observations are minimal.

Patricia Bergin asked Dr. Businger what he meant by if the project was not approved it does not mean the project will be stopped. Dr. Businger stated it meant that we would choose locations for the instruments that would be less suitable for the goals of the project. Mr. Stevens asked if it was possible to avoid using the inside of Pu'u Wekiu. If so, he would not have problems if it was anywhere else. Dr. Businger replied they would not be able to validate their model. Mr. Kalua asked Dr. Businger about other locations. Dr. Businger stated they would probably have to go back and review the options. They have not done so yet because they know there is no backup site that is really suitable.

Dr. Businger remarked we have two pu'u under consideration here, Hau Oki and Wekiu. If you take them both away, we would be in a lot of trouble. If you just take Pu'u Wekiu away it is going to compromise the study, but we can still move ahead with the project and see what we get. It is possible we would need to come back to the Board.

Dr. Terry stated why he is in support of this project. This is a difficult decision because he was aware of Kahu Kū Mauna's opposition to it, and it is not an easy thing for him to vote against their recommendation. On the one hand, this project has extreme scientific value. On the other, we have a cultural problem. These were equal in his mind and he had to find some balance to move himself one way or the other. What changed that balance was the temporary nature of this project, the minimal amount of intrusion, and the care that is being taken to go in and out of that crater. Further this is not a telescope. If it were for astronomy, the balance would have gone the other way. This is for research to manage the natural resources on the mountain and that is why he was put on this committee. His role and responsibility is to represent the environment.

Mr. Stevens stated that Board members should let their conscience be their guide, vote how you felt, and let it be so. Mr. Kalua asked if there was a 100 percent attendance at the Council meeting. Mr. Stevens replied no, but there was a quorum and he followed up later with the absent members with a phone survey. They were in agreement.

Mr. Kalua asked about the differences in data between inside vs. outside the crater. Dr. Businger responded that when you have a flow across the summit, it comes from a part of the atmosphere which is relatively undisturbed. When it reaches the upslope condition, it actually accelerates a little and it leaves the summit in a turbulent fashion. What is special about these craters is that they are protected from different wind directions. When winds come in from different directions the shape of the crater tends to separate the flow from the terrain which results in turbulent eddies. The turbulent eddies then allows snow and bugs to precipitate down into the crater, which is what we are trying to measure and understand. Areas without this surrounding ridge create another type of situation, and therefore, if we place the weather stations on the outside we will not know whether we have the correct data.

Chair Pacheco asked Mr. Stevens if Pu'u Wēkiu was not a study site, would the Council still have generated their letter opposing this project? It appears Kahu Kū Mauna is making a blanket statement about anything that is going to come before us except if it involves an existing telescope. Mr. Steven's felt that if it did not involve the cones they would review the benefits of the project. The Council would probably still have reservations, but not as emotional. They object to using the cinder cones because they are considered the source of life and the birthplace of new land. Any cinder cone would fall in that category, including Pu'u Hau Oki, even though it was filled in.

Mr. Yada appreciated Kahu Kū Mauna's position and understands their desire to prevent any further intrusion. At the same time, no one ever expected this Board or the Council to be in agreement on every single issue. Otherwise, there would be very little purpose for us to be here. We appreciate all the efforts and the advice that the Council has provided in the past. On the issue of developing a policy that is something that could be worked on and something that can be taken under consideration. Mr. Yada also stated he was a little uncomfortable being in a position of disagreeing with the Council. He indicated that the Board has followed the Council's advice in most cases in the past.

Mr. Yada further agreed with Dr. Terry that if these were instruments that were testing for the quality of astronomical observation, the discussion might be different, however, it is important to look at all aspects of the mountain because that is our charge. Obviously for reasons elaborated earlier, it seems to be very important to have a complete picture of what the conditions would be to preserve and perpetuate the wēkiu bug. Although he feels uncomfortable with it, he appreciates the need to find a sense of balance, and asked that whatever the outcome of the vote, that Kahu Kū Mauna continue their efforts. The Board respects and appreciates their advice.

Is there another way to obtain information? Businger stated he has looked at Landsat photographs, but the resolution is not high enough to distinguish between the upslope and the down slope side of the ridge. There is no remote sensing way that he is aware of.

Ms. Bergin asked if the Board were to approve the project, does the Council have a preference regarding the options for securing the weather stations; which was less objectionable. Mr. Stevens replied the Council did not cover that because it was not an option at the time. Would the Council still object if a shorter study is done without Pu'u Wekiu? Mr. Stevens replied the objection would still remain, but we would not ignore that an effort to compromise was made.

After discussing whether to keep Pu'u Wēkiu as part of the study, Mr. Stevens made a statement to the Board to either do it or to not do it. Ms. Bergin commented that Mr. Steven's last statement helped a lot. She felt that support from the Wēkiu Bug Scientific Committee was quite strong; especially because the Committee's position is that they support this project not just for the sake of research.

Ms. Ward stated she can certainly acknowledge the birthplace of the land and the cultural importance. She also felt that the creatures that live on Earth, including human beings, all have high value and deserves protection. When we do something environmentally that puts a species at risk, it puts us all at risk. She supports this project because the information may help preserve the wēkiu bug. She recognizes it is not certain that any of the resulting information will actually help bring the bug's population back into full health, but thinks that we could not even begin to do it without this information. She feels that it is worth making the attempt. She recognizes that Pu'u Wēkiu is a very, very sacred site and that Pu'u Hau Oki has been tremendously damaged by decisions made in the past, but we should move ahead with the project.

Action

It was moved by Ron Terry and seconded by Barry Taniguchi to adopt OMKM's recommendation to classify this project Minimal Impact and to approve it with conditions. The motion was carried unanimously.

Mr. Yada made one last comment. There is a condition that the Office closely supervises the installation and dismantling, and asks that the Office involve Kahu Kū Mauna in the evaluation of the installation method because they made their decision based on not doing the project. Further, the Office should work closely with Kahu Kū Mauna with the installation. Mr. Stevens recommended driving a post into the ground as opposed to other suggested installation methods.

VII. ANNOUNCEMENTS

Natural Resources Management Plan

Ms. Ward stated it is not likely a natural resources plan will be written by December 2007. She also mentioned hearing Dr. Kudritzki say at one meeting that the comprehensive management plan was nearly complete. However, in another meeting, he said it was 80 percent complete. She has no idea where those numbers come from, but can guarantee it is not the Natural Resource Management Plan.

Mr. Maberry stated those statements were probably related to IfA's portion.

Pan-STARRS Design Review Committee

Ms. Ward asked if she was correct to assume that the Design Review Committee will have met regarding the Pan-STARRS between now and the next meeting.

Director Stormont replied yes, he is trying to schedule it by the end of this month.

Ms. Ward added the issue of demolition is almost as critical as the issue of design, and what is going to happen during the demolition is going to affect the mountain a lot. The earlier that we can start this process the better. All along the Keck process this committee said they did not get to do it right because they had already designed it before we had a chance to discuss it. It looks very much like that is happening again right now, and the earlier the Design Review Committee can meet and discuss what is being talked about at the EIS stage, the better. A lot of things have already begun and things are in process already. If the Design Review Committee is way behind again, it is not going to benefit anybody.

Director Stormont replied the design review will insure that what is called for in the Master Plan is complied with. That is the purpose of the Design Review Committee.

Mr. Taniguchi asked if Mr. Maberry could take a message back to Rolf. Mr. Maberry responded that he agrees with Ms. Ward. He would like to see the committee meet and work on it very soon, but added, for a point of clarification, we are required to present something at the scoping meetings and get feedback. We are not too far down the road, but the sooner the better.

Doug Arnott asked if Pan-STARRS and the hunt for killer asteroids was the same thing. From the University's perspective it was. Mr. Arnott stated according to CNN online funding for that project was killed. Mr. Maberry replied that is not the case. There is a difference between the National Aeronautics and Space Administration (NASA) and the National Science Foundation. The National Science Foundation is moving forward and has just accepted a proposal for

the sister project slated for the southern hemisphere which is the large-scale synoptic telescope. IfA just received funding from NASA for operations of the prototype on Haleakala, Pan-STARRS PS1. The mandate from Congress is still the same - to find these objects as soon as possible.

Associate Director Nagata reminded Board members that the first phase of the design review process is to sit down with the developer and to review the objectives of the Master Plan and discuss issues and concerns that need to be addressed when designing the project. Technically it should happen prior to them even sitting down and start drawing up their design. That is the intent of the first phase of the design review process. The developer then comes back later with all their plans and some of their preliminary drawings.

Chair Pacheco added he did not recall any discussion regarding dismantling and demolition of a recycled site. Dr. Terry stated the Project Review Committee can bring that up since he will be on that committee. Mr. Stevens asked how many members would be on the committee. Director Stormont stated the first meeting involves the applicant; the project architect or engineer; and a representative from Kahu Kū Mauna, OMKM, IfA and a member of the Design Review Committee. Bruce Meyers, an engineer from Okahara & Associates, has agreed to be part of that committee. He would represent the independent outside individual, the technical expert. We are still waiting for confirmation on the representative from Kahu Kū Mauna.

Ms. Harden asked if the large-scale synoptic telescope was similar to Pan-STARRS. The large-scale synoptic telescope would cover the southern part of the sky that is not visible from here. Combined there would be coverage of the entire sky.

Mr. Stevens asked if the binocular telescope on Kitt Peak was doing the same thing. Mr. Maberry was not sure what role it plays, but said that it is a wide-field telescope. It is similar but does not have the same capability of detecting certain sized objects.


VIII. NEXT MEETING

The next meeting of the Mauna Kea Management Board is scheduled for Wednesday, May 9, 2007. (This meeting was later rescheduled to Thursday, May 10, 2007.)

IX. ADJOURNMENT

There being no further business, Chair Pacheco adjourned the regular meeting at 11:30 a.m.

Respectfully submitted:



Dr. Ron Terry, Secretary, MKMB

5/10/07

Date

APPENDIX A
 Proposal to Install Temporary Weather Stations on the Summit

Description of the Project

This study requires installing portable weather stations at four locations on the summit.

- It is approximately 14” tall and 8” in circumference.
- It contains instruments to record temperature, humidity, snow, wind speed and direction
- Data will be stored on a data logger attached to each station.
- The data logger is a computer chip approximately 2” in size and will be housed in a plastic container to protect it from the elements.
- Attached is a solar panel that will provide power to unit

Location of Weather Stations

One of the criteria for selecting a site is its close proximity to known wēkiu bug populations. In addition, two types of land features are required:

Type 1. Low areas surrounded by ridges and sheltered from the wind, i.e. base of craters

- Pu‘u Hau Oki crater floor
- Pu‘u Wēkiu crater floor

Type 2. Base of or mid-slopes where the influence of the slope and acceleration of upstream wind conditions can be measured.

- Near the base of the slope north of the Canada France Hawai‘i Telescope
- Near the base of Pu‘u Pohaku

Installation of the Weather Stations

All weather stations will be attached to a pole. There are several options for installing the pole.

Agency Land	Location on the Summit	Option 1	Option 2	Action
Mauna Kea Science Reserve – UH	1. Pu‘u Wekiu 2. Pu‘u Hau Oki 3. Canada France North Slope	Insert a pole into a large container containing quick Crete or concrete. The container would sit on the surface of the ground. The container will be painted to match the surrounding area.	Drill a hole in a large container Drive a pole through the hole and into the ground. Fill the container with quick Crete or concrete. The container would sit on the surface of the ground. The container will be painted to match the surrounding area.	
Natural Area Reserve – DLNR	Pu‘u Pohaku			Work with NAR staff on an installation method

In further discussions with Dr. Steve Businger, we feel that perhaps the method that had the least impact is to just drive a pole into the ground, period. That is up for discussion, and whether the Board wants to make a decision on that, we will leave it to you, or if you want to leave it up to our discretion, that is fine.

Access to the Weather Stations and Visibility

The data loggers will be replaced on a monthly basis by OMKM rangers. Access to the weather sites will not involve traversing wēkiu habitat nor will it require walking on loose cinder, thus preventing the establishment new trails into the craters.

OMKM rangers are aware of the best way to access Pu‘u Wēkiu. It is via the southern rim trail then hiking down into the crater over rocks and boulders. The best way to access the weather station in Pu‘u Hau Oki crater is from the road leading to Subaru and a short hike across the crater floor. Unlike Pu‘u Wēkiu, which has steep slopes, the drop down to the floor of Pu‘u Hau Oki crater is short, gradual and hard packed.

Of further note, the crater floor of Pu‘u Hau Oki is not the original floor. The original floor is several meters below. During the construction of the Subaru telescope, the contractor dumped cinder excavated from the construction site into the crater. The excavated cinder has been leveled and compacted.

An OMKM ranger checked the view plane from the summit of Pu‘u Wēkiu. The crater floor cannot be seen from the top of Pu‘u Wēkiu. The weather stations are relatively small; it is not likely they will be very visible from the road at both crater sites.

Duration and Completion of the Study

- The weather stations will only remain in place for four years, the duration of the study.
- Upon completion of the study, the weather stations, poles, containers, concrete fills will be removed and disposed of appropriately. The site will be restored to its original condition.

Project Review and Recommendation

- The Wēkiu Bug Committee unanimously recommended that OMKM fund Dr. Businger’s climatological study of the summit. Assisting Dr. Businger is Ms. Sara DaSilva, a graduate research assistant who worked with Dr. Businger on the analysis of the historical weather data mentioned above.
- The Mauna Kea Management Board’s Environment Committee reviewed the project and recommended it be approved.
- In cooperation with the U.S. Fish and Wildlife Service, OMKM with the assistance of the Wēkiu Bug Committee is developing a Candidate Conservation Agreement (CCA). A CCA is a formal agreement with the Fish and Wildlife Service that contains measures: 1) to reduce or mitigate identified threats; and 2) that will help sustain populations of the species. The Fish and Wildlife Service is encouraging OMKM to undertake this and other studies that will provide information on the bug, such as distribution, population status, life history, etc., with the goal of mitigating threats to the bug.
- Kahu Kū Mauna Council position:
 - It is opposed to any new installation in the summit area, regardless of size or significance, because it adds to the cumulative impact.
 - The introduction of any manmade object inside the craters of cinder cones within the Science Reserve or NAR is unthinkable. Extensive damage has occurred and they advocate the disallowance of more disturbance.
 - The Council is concerned that by allowing this project, even though it is temporary, it will set precedence for other requests.

Permits

Agency Permit	Activity and Permit Requirement	Permit Received
Office of Conservation and Coastal Lands, DLNR	Pursuant to Hawai‘i Administrative Rules (HAR) §13-5-22 “[b]asic data collection, research, education, and resource evaluation as identified in the exempt classes established in HAR §11-200-8” requires a Site Plan Approval .	OMKM was granted a Site Plan Approval by DLNR
Natural Area Reserves, DLNR	Pursuant to HAR §13-209-5 the Natural Area Reserves Commission “may issue a special-use permit for research, education, management...”	OMKM was granted a Special-Use Permit by the NAR