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PO BOX 621
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MAY 22 1997

Mr. Nelson Ho
Hawaii Chapter Conservation Chair
Sierra Club, Hawaii Chapter
P.O. Box 2577
Honolulu, Hawaii 96703

Dear Mr. Ho:

Subject: February 4, 1997 Letter from Nelson Ho to Senator Malama Solomon Regarding a Resolution Calling for a Legislative Audit of the Past and Current Management of the Mauna Kea Science Reserve

This is in response to issues and concerns raised by the Sierra Club regarding management of Mauna Kea.

Number of Telescopes Allowed in the Science Reserve:

There are currently 11 major telescopes in the summit area of Mauna Kea and one minor (~4-inch) telescope. The Very Long Baseline Array Antenna (VLBA) was developed at the 12,220 foot elevation under a Supplemental Environmental Impact Statement.

Prior to the Development of the Mauna Kea Science Reserve Complex Development Plan (MKSRCDP) in 1982, and the accompanying Final Environmental Impact Statement (FEIS) in 1983, there were six existing telescopes in the summit area of Mauna Kea including four major and two minor (24 inch) telescopes.

Minor Telescopes:

1. University of Hawaii 24-inch Telescope
2. University of Hawaii 24-inch Telescope (Planetary Patrol)

Major Telescopes:

3. University of Hawaii 88-inch Optical Telescope
4. 144-inch Canada-France-Hawaii Optical Telescope
5. 120-inch NASA Infrared Telescope
6. 150-inch United Kingdom Infrared Telescope

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The MKSRCDP identified three additional telescope operators with plans to develop facilities at Mauna Kea in the 1980s including the Caltech 10-meter submillimeter observatory, Science and Engineering Research Council of the United Kingdom 15-meter millimeter-wave telescope (James Clerk Maxwell Telescope), and a 10-meter optical/infrared telescope sponsored by the University of California. The latter telescope was developed by the University of California in partnership with Caltech as the W.M. Keck Observatory I. This brought the total up to nine (9).

7. Caltech 10-meter
8. James Clerk Maxwell Telescope (JCMT)
9. W.M. Keck Observatory (Keck I)

The subject plan also provided for the development of four new telescope facilities, by type, including three optical/infrared telescopes and one 25-meter radio telescope. Following are a list of telescopes developed or being developed in the summit area:

10. W.M. Keck Observatory (Keck II)
11. Gemini Northern 8-Meter Telescope (under construction)
12. Japan National Large Telescope (Subaru) (under construction)
13. Smithsonian Submillimeter Array Telescope (under construction)

One of the original minor 24-inch telescope was removed from the summit area to allow for the construction of the Gemini Telescope. As such, the total number of telescope facilities at Mauna Kea is 11 major telescopes, plus one minor (24-inch) facility in the summit area. This does not include the VLBA facility at the 12,200 foot elevation.

Under the MKSRCDP, a total of eleven (11) major and two (2) minor telescope facilities were envisioned to be built up to the year 2000. The accompanying FEIS also disclosed, analyzed and mitigated impacts for 11 major and 2 minor telescopes at Mauna Kea.

As you can see, the number of telescopes developed at Mauna Kea has not exceeded thirteen (13). Sierra Club believes that there are more than 13 telescopes at Mauna Kea because they equate the Smithsonian Institution's Submillimeter facility with eight (8) separate telescopes facilities rather than one facility. (Note: The permit allows for a maximum of 12 antennas). This facility is, in fact, one observatory with 8 separate antennas rather than one large 25-meter dish, which was originally proposed in the MKSRCDP.

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We agree with the assertion that the Smithsonian facility extends over a larger area than other single dish facilities at Mauna Kea. For instance, it includes 24 separate antennas pads (on which 8-12 antennas can be configured at any one time), and an extensive road system. However, the Smithsonian facility is considered to be a single observatory (e.g., one control room, one operator), rather than 8 or 12 separate facilities.

CDUA Process:

A Conservation District Use Application (HA-2728) was processed for the Smithsonian's facility and approved by the Board of Land and Natural Resources on November 18, 1994. The University of Hawaii Institute for Astronomy (UHfIA) also consulted with the Office of Environmental Quality Control who, by letter dated May 25, 1994, confirmed that all pertinent environmental concerns had been addressed in the previous Final Environmental Impact Statements for Mauna Kea development and that UHfIA had fulfilled the requirements of the State's Environmental Impact Statement Laws (see attached letter).

There have been no procedural anomalies in Conservation District Review Process for telescope facilities at Mauna Kea. The Sierra Club refers to "questionable educational and research" exemptions used to construct a dozen telescopes on Mauna Kea. It is unclear what is meant by this statement. The last four telescopes built on Mauna Kea, including Keck II, Gemini, Subaru and Smithsonian have all received clearances from the Office of Environmental Quality Control, meaning that all previous environmental concerns were met during the previous FEIS process. The Very Long Baseline Array Antenna (VLBA) which was developed at the 12,220 foot elevation, was processed under a Supplemental Environmental Impact Statement because it was outside of the area studied in the previous EIS documents. However, all other facilities that have been developed under the auspices of the MKSRCDP and FEIS are in areas that were studied for telescope development.

While Smithsonian did represent a change from a single 25-meter dish telescope to an array telescope involving 8 antennas, a CDUA was filed with the DLNR, Office of Conservation and Environmental Affairs which clearly disclosed the type of facility being planned. A Land Board meeting was also held in which the application was approved. There were no objections to the proposal at that time.

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Future Precedents:

No precedents have been set by permitting the development of an array-type telescope at Mauna Kea. The Smithsonian array, may not expand over that which was approved in the CDUP.

Deregulation of Mauna Kea:

The statement that Mauna Kea has been deregulated is also unfounded. The DLNR is presently responsible for the enforcement of Conservation District rules and regulations within the Mauna Kea Science Reserve, pursuant to Chapter 183C, Hawaii Revised Statutes and Title 13, Chapter 5, Hawaii Administrative Rules. Anything defined as a land use such as telescope development or any use in concert with telescope development is regulated by the DLNR through the issuance of permits and approvals. The DLNR, as the fee land owner, is also responsible for the regulation of commercial activities pursuant to the Revised Management Plan for U.H. Management Areas. As far as enforcement, our Division of Conservation and Resources Enforcement (DOCARE) officers respond to alleged violations of the Conservation District rules and regulations, including such things as unauthorized work or construction by the University of Hawaii or its sublessees or any other entity conducting an unauthorized use or an unauthorized commercial activity within the Science Reserve.

While there have been instances of questionable land use activities or unauthorized commercial use of the Science Reserve, they have generally been dealt with in an appropriate manner. However, the main problem on Mauna Kea is the general public's unrestricted use of the summit area. With the paving of the upper portion of the summit road, the door was opened for unrestricted public access.

We feel that this is the main problem. Different solutions have been proposed such as posting a security guard at Hale Pohaku to monitor access and to inform the public of the various prohibitions and guidelines that need to be observed for use of the summit area. A security guard could screen individuals at Hale Pohaku and could monitor commercial operators to ensure that they have appropriate permits for use of the summit area. Unfortunately, this is beyond the scope of our current programmatic and financial capabilities.

→ restrict access

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Changes to the Management Plan:

The only major change in the Management Plan for Mauna Kea was that enforcement responsibility for public and commercial use of Mauna Kea was changed from UHFIA to DLNR. In fact, the DLNR had already been regulating commercial operators at Mauna Kea through the issuance of Board permits. This process was merely formalized in the Revised Management Plan.

The Sierra Club fails to recognize that the adoption of the Revised Management Plan incorporated a new set of controls and procedures for regulating commercial activities at Mauna Kea, with the purpose of protecting the mountain's fragile resources and further ensuring public safety on the mountain. Some controls were eliminated and/or modified, but new ones were added to address issues that were felt to be relevant.

The DLNR and UHFIA were able to create new regulations to address commercial activities where few had existed. The main problem at Mauna Kea, as mentioned earlier, has to do with unrestricted public access to the summit area. This has been a problem ever since the upper portion of the summit road was paved around 1990. At some point, either UHFIA or DLNR will need to control access to the summit area, but this will require sources of funding.

UHFIA has, in fact, offered to cover the expense of stationing a DOCARE officer in the summit area on weekends. However, this would merely shift enforcement coverage to the summit area from other areas of the Big Island on the weekends, where their presence is also required.

Historic Preservation Concerns:

The Sierra Club seems to believe that all but two shrines in the summit area are on the National Register of Historic Places and that these two shrines are therefore not protected by state and federal law. It is unclear which two shrines are referred to in the letter, but none of the shrines in the summit area are on the National Register. In 1986, DLNR submitted nomination forms to place 41 shrines, a U-shaped structure and two cairns on the summit of Pu'u Lilinoe on the Hawaii and National Register of Historic Places. The entire nomination, not just that for two shrines, was withdrawn when UHFIA opposed the nomination. It was in exchange for this withdrawal that UHFIA agreed to develop and implement an historic preservation management plan which, admittedly, is a least 10 years overdue.

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Thus, none of the shrines in the summit region are on the State or National Register. This does not mean, however, that they are not afforded any protection under state or federal law. All the shrines in the summit region are on State land and are therefore subject to State historic preservation law which, potentially, provide for stronger protection and regulatory consideration than that afforded by National Register status. The National Register itself has no mechanism to protect or enforce the protection of sites on the Register. Any protection or regulatory consideration for sites on non-federal lands is implemented through the National Historic Preservation Act (NHPA). Under NHPA, the effects of a federally funded project on any of the shrines, would have to be considered, whether or not they are on the National Register.


In July of 1993, UHFIA and the State Historic Preservation Division agreed on a basic scope of work for the Historic Preservation Plan for UH Management Areas on Mauna Kea. Implementation details for the inventory portion of the project were settled in subsequent discussions, and in 1995, staff from HPD re-visited all of the sites previously identified in the Science Reserve and obtained photographs and GPS coordinates for each.

Wekiu Bug:

Issues and concerns related to impacts to the Wekiu bug habitat were already addressed in a letter from the DLNR to Dr. Fred Stone (attached). UHFIA has contracted with Bishop Museum to carry-out a new arthropod assessment in the Science Reserve under the direction of Dr. Frank Howarth. This work is already in progress.

Please feel free to contact Sam Lemmo of our Land Division's Planning Branch, at 587-0381, should you have any questions on these matters.

Aloha,


for MICHAEL D. WILSON

cc: Hawaii Board Member
Hawaii Land Agent
The Honorable Senator Malama Solomon
Don Hall