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DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

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February 4, 1997

Senator Malama Solomon, Co-Chair  
Senate Water, Land, and Hawaiian Affairs Committee  
State Capitol Building - Room 205  
Honolulu, Hawai'i 96813

Dear Senator Solomon:

Sierra Club wholeheartedly endorses your resolution calling for a legislative audit of the past and current management of the Mauna Kea Science Reserve, a joint responsibility of the University of Hawai'i's Institute for Astronomy (IfA) and the Department of Land and Natural Resources (DLNR). Based on our research (reflected in the attached file of documents), we believe that IfA and DLNR actions, especially in recent years, represent a pattern of practice which has undermined the regulatory structure intended to monitor and protect the mountain and provide public input on Mauna Kea developments. Hawai'i citizens have expressed legitimate concern that their special mountain is no longer being adequately protected and wonder whether existing plans and regulations are being followed to the letter and the spirit of the law.

We urge that seven specific areas of concern be investigated by the Legislative Auditor:

**First, there have been two violations of the Master Plans' limitation on the number of telescopes allowed in the Science Reserve before the year 2000.**

Two master plans for the Mauna Kea Science Reserve specifically limit the number of telescopes allowed on the mountain before the year 2000. They are the University of Hawai'i Research Development Plan for the Mauna Kea Science Reserve and Related Facilities (UH RDP), adopted by the University's Board of Regents in January of 1982, and the Mauna Kea Science Reserve Complex Development Plan (MKSRCDP), adopted by the Board of Land and Natural Resources (BLNR) in 1985 (amended in 1987). Both plans clearly limit the number of telescopes in the Science Reserve to thirteen--eleven "major" and two "minor" telescopes (the latter specifically referring to two twenty-four inch telescopes). (MKSRCDP, pages 41,42) Those limitations were imposed to "allay public fears" expressed by citizens and elected officials "that astronomy interests might completely take over the mountain." (MKSRCDP, pages 3,4) Yet, BLNR approved two

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IfA requests which exceeded the eleven "major" telescope limitation--for the eight six-meter telescopes of the Smithsonian Institution's submillimeter radio array and the eight meter Gemini Telescope. As a result, there are now twenty major telescopes authorized for the Science Reserve, almost twice the number allowed in the master plans.

*Were these IfA and BLNR actions legal, and if so, were all the proper procedures followed?*

**Second**, in approving the Smithsonian Institution's Submillimeter Array, the BLNR accepted IfA's definition of this mammoth eight antennae array as a single telescope, thereby setting a precedent for open-ended expansion of telescope facilities in violation of the Master Plans' intent to prevent the mountain from being taken over by astronomy. The array *currently* consists of eight individual radio telescopes, twenty-five concrete pads (and their associated road network) spread out over the mountainside to accommodate various telescope configurations, and disturbs more acreage than the two Keck telescopes, Subaru, and Gemini combined. Yet it is anticipated that as money becomes available, the array might expand to an even larger number of telescopes while still being counted as a single instrument. While these eight instruments are designed to operate together as a single astronomical instrument, counting them as one for the purpose of staying within the limits of the Master Plans distorts the intent of the eleven telescope limit. The history and language of the Master Plans is crystal clear--the number of major telescopes allowed is eleven and the reason for imposing the limitation was to allay public fears that the mountain might be taken over by astronomy. (MKSRCDP 3, 4, 41, 42)

*Was the IfA/BLNR interpretation of the number of telescopes in the Smithsonian array a violation of the intent of the Master Plans approved by the Board of Regents and the BLNR? If so, what can be done now to live up to the Plans' original intent? Also, what prevents the Smithsonian array or any other telescope facility from becoming a constantly growing "single" facility?*

**Third**, on March 10, 1995 the Board of Land and Natural Resources deregulated Mauna Kea by adopting a new management plan which eliminates most of the monitoring and regulatory provisions imposed in 1985.

*In* March of 1995--over objections raised by Native Hawaiians and environmentalists--the IfA convinced BLNR to deregulate Mauna Kea, specifically eliminating numerous monitoring and regulatory provisions adopted in 1985 to protect public safety and the biological and cultural aspects of the mountain. The earlier plan represents a set of promises made by astronomers in exchange for obtaining permission to build Keck I, Keck II, Subaru, Gemini, and the Smithsonian telescopes. Now, with those promises broken, the way is paved for future telescope development--including a National Science Foundation forty-telescope project (the Millimeter Array) and the Japanese Nobeyama

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Radio Observatory's fifty-telescope array (Large Millimeter and Submillimeter Array) for which Mauna Kea is one of only two possible sites. Yet, as a result of the BLNR decision, there is virtually no monitoring or regulatory structure in place for identifying or mitigating damage to the mountain's precious flora, fauna, and Native Hawaiian cultural and religious sites. In March of 1995, Ka Lahui Hawai'i's Kia'aina, Millilani Trask, warned BLNR that the new management plan would result in "lost opportunities for the accommodation of traditional religious purposes associated with sites and features considered sacred to Native Hawaiians."

*Did BLNR have the authority to deregulate Mauna Kea by adopting a new management plan which eliminated most of the earlier regulatory structure? If so, what criteria should the Board have met in order to justify such a radical departure from the past regulatory history of the mountain? Further, what recourse now exists for citizens concerned that these IfA and BLNR actions leave the mountain vulnerable to under-regulated exploitation?*

**Fourth, the last twelve telescopes on Mauna Kea were approved and permitted without individual, up-to-date Environmental Impact Statements and the full public hearings which normally attend such major projects in Hawai'i.**

The last Environmental Impact Statement conducted for a summit telescope was approved in 1983. Since that time, a dozen telescopes have been constructed or authorized without further Environmental Impact Statements (apparently using questionable "educational and research" exemptions from DLNR). Yet these projects include the world's four largest telescopes--Keck I, Keck II, Subaru, and Gemini. To avoid public controversy, IfA and the proposing observatories have sought and received "negative declarations" from DLNR, allowing construction of these immense projects without thorough environmental review or full public scrutiny. Decisions to go ahead with these projects were made, sometimes after only cursory discussion, at regular BLNR meetings without any special effort to draw public attention to the proposed impacts on the mountain or solicit public and scientific comment on the projects. Although millions of federal dollars have been spent on the construction and operation of Mauna Kea telescopes, no federal Environmental Impact Statement has ever been conducted as required for projects having a substantial federal involvement under the National Environmental Policy Act (NEPA). This is particularly puzzling given that several of these telescopes are (at least in part) U.S. Government owned and operated, including the NASA Infrared Telescope, the Smithsonian Institution's Submillimeter Array, and the Gemini telescope.

*How is it possible that in this day and age such massive and costly projects could have been approved without the requisite environmental review process and associated public hearings? Was this legal, and if so, were the various "negative declarations" filed by the DLNR sufficiently justified, according to administrative rule, to allow the*

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*projects to go forward? Why were the Mauna Kea telescopes exempted from federal law with respect to federal Environmental Impact Statement requirements?*

*Fifth, in 1986 IfA derailed a DLNR initiative to include two Native Hawaiian religious shrines located in the summit area on the National Register for Historic Places because their protection might inhibit federal funding for Mauna Kea astronomy.*

In 1986, DLNR archeologists sought to place all the Native Hawaiian shrines of the summit area onto the National Register of Historic Places. According to DLNR documents, IfA opposed this on a "technical processing ground" because such placement could be "a potential impediment to obtaining federal grants for telescope construction." (*D. Hibbard to R. Evans memorandum, September 13, 1991*) So DLNR's State Historic Preservation Division withdrew two of the shrines from their initiative in exchange for an agreement with IfA that an overall historic preservation management plan would be developed and implemented *prior to extensive development*. At the time, DLNR officials believed such a plan "would achieve our goals for proper treatment" of the shrines. But it took five years for the State Historic Preservation Division to get IfA to *even participate* in the formulation of the plan. A decade after the original agreement, that plan has yet to be completed--and those two summit shrines are now afforded neither state nor federal protection.

*Were these arrangements legal? How can the State of Hawai'i assure the federal government that damage to sites protected under the National Register of Historic Places has not occurred? What can be done to protect those two summit shrines in the future? Do any of these circumstances jeopardize federal funding for Mauna Kea astronomy?*

*Sixth, recent construction activity destroyed important Wekiu bug habitats which were to be protected under the Master Plans, the 1983 EIS, and the CDUA permits for the Subaru and Gemini telescopes.*

A May 1996 investigation by entomologist Dr. Fred Stone, revealed that significant habitats for the rare--and now possibly endangered--Wekiu bug were destroyed in the early 1990s by construction activities on the Subaru and Gemini telescopes. (*F. Stone letter and report to BLNR Chair, Michael Wilson, May 11, 1996*) Later that month, BLNR member Christopher Yuen issued an analysis acknowledging Dr. Stone's findings and assigning blame for the incident to both DLNR and IfA. (*C. Yuen letter to M. Wilson, May 31, 1996*) Meanwhile, according to press accounts, IfA accepted responsibility for allowing the construction activities. Last fall, BLNR Chair, Michael Wilson, confirmed the destruction at both sites in a letter to Dr. Stone, thereby raising serious questions about violations of the protections which were to be afforded these habitats under the Master Plans, the 1983 EIS, and the CDUA permits. (*M. Wilson to F.*

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*Stone, September 25, 1996)* While acknowledging the damage, the BLNR Chair issued no punitive measures in response. Despite the urgings of scientists and others, vast areas of the Science Reserve remain unsurveyed for arthropods and lichens, as well as Native Hawai'i cultural and religious sites. Said Dr. Stone in his report to the Land Board Chairman, "The IfA has been given a free hand to treat the mountain resources with impunity, and to violate the Management agreement with no enforcement of penalties. If this situation continues, one can predict that in the near future, there will be no unique resources to protect."

*How was it possible that such important habitats could be destroyed? Did IfA and the DLNR act within their authority in approving the construction activities which destroyed these habitats? Have other important habitats been similarly destroyed or disturbed? What legal or administrative changes might be made to assure that such destruction never happens again?*

**Seventh, misuse of state lands may be occurring because portions of the Mauna Kea summit are currently leased to foreign governments for \$1.00 a year. Hawaiian Home Lands in Hilo are also being leased by foreign and other astronomical operations for base yard facilities and administrative offices.**

Mauna Kea is considered to have the finest "seeing" conditions for astronomy of any location in the world. Yet for access to the summit, each astronomical facility pays the State of Hawai'i only \$1.00 a year. That's to house the largest telescopes owned by California, NASA, the Smithsonian Institution, Japan, France, Canada, the United Kingdom, Taiwan, and the Netherlands. These Science Reserve lands were originally "ceded" to the State of Hawai'i in 1959, and as Ceded Lands are to be held in "trust" in part for the "betterment of the condition of Native Hawaiians." Do these astronomical leases fulfill that mandate? In addition, several countries lease land for their base yard facilities and administrative offices at the University Research Park in Hilo, some of which is Hawaiian Home Lands.

*What is the legal standing for these lease arrangements--both on the summit and at the University Research Park? How are Hawaiian descendants benefiting from the astronomical use of their Ceded Lands and their Hawaiian Home Lands?*

As you well aware, the public has become increasingly upset over the disregard and mishandling of these important matters on Mauna Kea. All of this has happened while citizens were largely excluded from meaningful participation in determining the future of the mountain. We at Sierra Club are convinced that a thorough legislative audit will go a long way toward correcting the mistakes of the past by identifying legislative and administrative solutions to these problems. In this way, the Legislature will be

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empowered with the information and the policies it will need to carry out the wishes of the people of Hawai'i and protect the mountain that they so deeply love. Mahalo again for introducing the resolution to begin this important process.

Aloha,




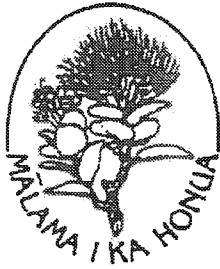
Nelson Ho  
Hawai'i Chapter Conservation Chair

P.S. For immediate response to any questions, please contact me at my Big Island office:

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c.c. Marion Higa, Legislative Auditor  
Hawai'i Island Legislative Delegation  
Mililani Trask, Kia'aina, Ka Lahui Hawai'i  
David Frankel, Hawai'i Chapter Legislative Director





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## MAUNA KEA PRESERVATION AND USE POLICY

### Preamble

Mauna Kea is Hawaii's most magnificent mountain, product of fire and ice, home to rare birds, plants, and insects, and the location of the highest and most unusual Native Hawaiian cultural and religious sites in the archipelago. Its clear, dark skies, have made it home to the world's largest telescopes. Since 1965, the upper slopes and summit have been transformed and the balance originally envisioned by local public officials, Native Hawaiians, conservationists, biologists, archeologists, hunters, and others has been lost. The Department of Land and Natural Resources (DLNR) has allowed construction of twenty telescopes on Mauna Kea in violation of the 1983 Mauna Kea Science Reserve Complex Development Plan, which limits the number to thirteen. In 1995, the University of Hawaii's Institute for Astronomy (IFA) convinced DLNR to relieve IFA of its earlier promise to protect public safety, the natural environment, and cultural and religious sites. Despite these broken promises, astronomers are now gearing up for even more development.

### Policy Statement

**It shall be the policy of Sierra Club, Hawaii Chapter, to support a moratorium on any further development in the Mauna Kea Science Reserve until the following conditions, designed to re-establish a prudent balance between astronomy and the cultural, religious, biological, geological, and recreational attributes of the mountain, are met:**

1. The Board of Land and Natural Resources must rescind its March 1995 decision to adopt a revised management plan that eliminates earlier provisions ensuring public safety and protecting the natural environment and cultural and religious sites. The few remaining regulatory responsibilities fell upon an overburdened public taxpayer. Until such rescission, DLNR must hire enforcement personnel, at observatory and commercial operator expense.
2. The 1982 biological assessment (Howarth and Stone, November 1982) must be updated. The new survey shall measure any changes made in the mountain's critical habitats as a result of a decade and a half of astronomical development.
3. The Historical Preservation Management Plan for the Science Reserve, promised by IFA in 1986, must be completed and implemented. Currently, only a portion of the 13,321 acre Science Reserve has been surveyed by archeologists, and only in a limited fashion. The entire Science Reserve shall be surveyed before any further development occurs.
4. All observatory construction debris and other trash (from thirty years of mountain use) must be removed and a solid waste management plan developed and implemented.
5. An agreement shall be reached specifying the maximum extent to which future development will be allowed on Mauna Kea. Sierra Club, along with other community organizations and Native Hawaiian groups, must be a party in forging this agreement.

*This policy was approved unanimously by the Hawaii Chapter Executive Committee, November 16, 1996.*