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Protecting  
Native Hawaiian  
traditional and  
customary rights  
and our  
fragile environment

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Outrigger Telescopes Project

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**Scoping Comments for NASA/Keck Observatory Environmental Impact Statement Outrigger Telescope Expansion Project on the Sacred Summit of Mauna Kea**

These comments are respectfully submitted on behalf of KAHEA: The Hawaiian-Environmental Alliance and should be considered as a supplement to KAHEA's public testimony presented at the Scoping hearing in Honolulu. KAHEA is an islands-wide alliance of Native Hawaiians, including cultural practitioners, environmental activists, and many others working to protect fragile Island resources and Native Hawaiian cultural rights. KAHEA has been involved in efforts to protect Mauna Kea from the organization's inception in 2000.

**NASA Outreach was Minimal for Scoping and Pre-scoping Process**

NASA did not respond nor did it acknowledge the comments, concerns and suggestions that were generated at a pre-scoping meeting held in Hilo. Attending the pre-scoping meeting were representatives of the Royal Order of Kamehameha I, KAHEA Executive Director, Mauna Kea Anaina Hou President, a Sierra Club representative and several members of the public.

Consultants Judge Heen and Linda Coburn convened the meeting and assured us that our concerns would be communicated to NASA. The concerns and suggestions raised at this meeting were completely ignored. It is particularly concerning that NASA ignored points raised about the importance of including the public early in the Scoping process and NASA ignored specific recommendations for broad public notification. NASA also ignored specific offers of assistance in the Scoping hearings public notification and outreach.

NASA's lack of acknowledgement is rude and insulting to the participants who made a good faith effort to establish a productive and honest working relationship in the early stages of the EIS process. The early stages of the EIS set the tone for the entire process. By ignoring the core group of people many of whom have been very deeply involved in the process, NASA is indicating that participation by the public is futile and unnecessary as the outcome has been determined.

It is KAHEA's firm opinion that NASA's EIS Scoping notification process lacked a reasonable effort to reach the impacted population. Placing a notice in the Federal Register on December 30, 2003 and beginning public Scoping hearings six

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days later does not indicate that NASA made a serious attempt to solicit public input. A legal notice on the back pages of the newspaper for one day does not constitute a serious attempt to notify the public in order to include them in this process.

People have a tremendous interest in this issue, as evidenced by 30 years of public concern, hundreds of people in attendance at public hearings and the high number of people who attended the Scoping hearings. Scoping is a very important part of the process. It sets the tone for the entire EIS process. If NASA is interested in developing an EIS that reflects the communities' concerns, it is not giving the public that impression.

If NASA were truly interested in soliciting public input in the Scoping process, it would have at a minimum, placed numerous advertisements in the paper and on the radio and contacted local non-governmental organizations that have been involved in this issue for many years. NASA could have provided three weeks advance notice.

Holiday schedules, the extremely short lead-time of notification and the very minimal outreach efforts by NASA are inadequate and unacceptable.

**Two Islands represent a small fraction of the people who will be impacted by the proposed action.** NASA needs to acknowledge that Mauna Kea is an important cultural and religious issue for all people of Hawaiian ancestry. The lack of this acknowledgement indicates a fatal flaw in efforts to adequately address the social and cultural impacts of the proposed telescope expansion. NASA held hearings on two of five Main Islands. This is not acceptable. NASA needs to solicit input from *all residents* and particularly from Native Hawaiians who live on each of the Main Hawaiian Islands as well as from Native Hawaiians who are currently living in the continental United States. At least one half of the Native Hawaiian population lives in the continental U.S.

### **Limiting the Scope of the EIS does not include changing NEPA**

NASA facilitators indicated at the Scoping meeting in Honolulu, that comments should be limited to potential environmental and cultural impacts. NEPA clearly states that social and economic issues must be addressed in the EIS. The public notification in the Federal Register and in the legal notice posted in the newspaper (Honolulu Advertiser, December 21, 2003), indicated that the EIS would address the environmental impacts associated with expanding the Keck Telescopes. This is misleading and inappropriate.

### **The No Action Alternative**

In spite of NASA's grossly inadequate public notification and outreach, high numbers of people attended the Scoping hearings.

A common theme that dominated the public's comment at each of the hearings was support for NO further development on Mauna Kea. The overwhelming position of the affected community's comments must be addressed in the Draft EIS. The people who you are soliciting for input have indicated that they want no further development on the Mountain. As a result NASA must present the "the No Action Alternative" as a compelling option.

### **There is a General Presumption that the Project Will Be Carried Out**

NASA must formally request that University of Hawai'i Institute for Astronomy withdraw the application for a Conservation District Use Permit. NASA's transparent attempt to distance itself from UH IFA on this issue is not appropriate nor does it demonstrate good faith in the EIS process. It also contributes significantly to the presumption of the project, a violation of the law.

Many people have indicated that the telescopes are already constructed. If this is true, then this process seriously lacks validity. The issue of a foregone conclusion of the project going forward needs to be publicly addressed.

The public is wary that this process is authentic, i.e. that there will be a true and objective assessment of the proposed alternatives including a “No Action” alternative.

### **The Cultural Impacts Must be Fully Addressed**

The summit region of Mauna Kea is without question one of the most sacred places in all of Polynesia. It is holds tremendous religious significance related to “myths of origin” summit of Mauna Kea is sacred.

Kepa Maly has identified numerous cultural properties inside the Mauna Kea Science Reserve that are of importance to Native Hawaiian people, including: a) The summit region (about 6,000 feet to the summit), b) Numerous cinder cones (pu‘u), c) the view plane, d) The landscape related to navigational traditions, e) the sacred waters of Lake Waiau and the adjacent cinder cone, and f) several trail systems throughout the complex and beyond.

In addition, the pu`u that form the Summit of Mauna Kea have been identified by the State Historic Preservation Division of the Department of Land and Natural Resources as a Historic Property and the summit region of including most of the Mauna Kea Science Reserve has been identified by the State Historic Preservation Division as a Historic District. Both Historic Properties are eligible for listing on the National Historic Register.

The Historic District of Mauna Kea includes the Science Reserve and beyond and the Natural Area Reserve. The entire District area incorporates 93 archaeological sites, three landscape features (considered traditional cultural properties), including but not limited to, the Mauna Kea Adze Quarry Complex and over 76 shrines.

NASA must complete an independent and comprehensive Cultural Impact Statement for Mauna Kea that addresses the sacredness, the role of the mountain to the Hawaiian people and other people of Polynesia, includes the cultural practices that are supported by the Mountain’s summit region and adequately addresses the serious impacts of continued growth on the mountain to cultural and religious practices.

The existing compilation by Group 70 is inadequate and incomplete, as it does not address the religious and cultural considerations that would guide the proposed project. KAHEA would support the continued work of Kepa Maly in this capacity.

A comprehensive Burial Plan must be prepared, reviewed and approved by the Hawai‘i Island Burial Council.

A 106 Consultation should be reconvened and updated. The participants in the 106 Consultation did not sign off or come to agreement. NASA should reconvene the affected community and others who are selected by the community of practitioners to review the 106 Consultation outcome and process and update the document to accurately reflect the information that has been generated since the initial document.

### **The Lack of Baseline Data and the Legal Requirement to Address Cumulative Impacts**

For the last 30 years, the astronomy industry has been allowed to systematically expand without the benefit of federal environmental review. A federal court found in *OHA v O’Keefe* that “...with no previous EIS or EA that encompassed the site of the Outrigger Telescope Project, NASA’s obligation to

consider *cumulative impacts of development at the Keck observatory is correspondingly greater.*” (Emphasis added).

The federal court also indicated, “...the present EA does not adequately consider the impact of development of the outrigger telescopes when added to other past, present and reasonably foreseeable actions *regardless of what agency...or person undertakes such other actions.*” (Emphasis added).

NASA has no baseline data against which to determine the potential impacts of this project. With no baseline information it cannot properly determine the planned impacts from the six telescopes, let alone any reasonably foreseeable future impacts. Therefore, the NASA DEIS must include an assessment of the impacts derived from all the existing facilities and past activity as well as the currently planned and reasonably foreseeable future facilities.

In the last 30 years, none of the observatories have produced an environmental assessment of their activities on the fragile environment or on the cultural and religious resources or practices of Mauna Kea. The proposed project must assess the cumulative/combined effects of 30 years of telescope industry activity, with proposed and future development fully addressed.

After years of careful deliberation, the State of Hawai‘i and the University of Hawai‘i assessed the carrying capacity of Mauna Kea to be no more than 13 observatories. This number has been significantly exceeded. Building four to six additional telescopes demands a full examination of the cumulative impacts of the prior development.

State and Federal statutes require that the cumulative impacts assessment include impacts from the past, present and reasonably foreseeable future. NASA's assessment of the cumulative impacts must include the past, present and reasonably foreseeable future astronomical facilities.

### **The Environmental Impacts**

The issue of hazardous waste transport, storage, and disposal is very serious and must be fully addressed. An inventory of hazardous materials used by all the observatories on the mountain must be produced and a management plan addressing transport, storage, and disposal must be developed in the DEIS.

The full extent of existing contamination of the soil, substrate, lake and the aquifer must be determined, reported and cleaned up prior to any further activity on the mountain. There have been 6 documented elemental mercury spills. NASA must present documentation that these spills were adequately cleaned up and mitigated.

At least 48,000 gallons per month of human waste is injected into septic tanks, cesspools and leech fields. That is approximately, 500,000 gallons per year. Due to inadequate sewage systems used by the observatories, human waste and other effluents leach directly into the porous volcanic soil.

The sewage disposal technology by the telescope industry on the mountain is inadequate and outdated. It is a failing system that needs complete overhaul. This is a priority issue that must be addressed. There is no information on how the sewage or hazardous materials entering the ground will impact our water. Many people continue the traditional practice of harvesting and gathering the sacred water, ice and now of Mauna Kea for ritual and ceremonial purposes. There has never been any monitoring of the effects of the use of these materials on the water quality of the lake or on the aquifer that lies below or on the Wēkiu bug populations.

Mauna Kea is the principle Aquifer for Hawai'i Island. In 30 years, no comprehensive hydrology studies have been conducted. The complex hydrology of Mauna Kea must be fully assessed by independent hydrologists.

There must be specific measures taken to actively assess, identify and prevent contamination of groundwater and the lake.

### **The Wekiu Bug**

1997-1998 survey of Wekiu Bug populations on the summit of Mauna Kea demonstrated a drastic decline from the numbers found in 1982.

As a direct result of the development and activities on Mauna Kea, the endemic Wēkiu bug population has been drastically reduced to levels of serious concern. The U.S. Fish and Wildlife Service listed the Wēkiu bug as a candidate for endangered species status.

KAHEA filed a formal petition that requires USFW to initiate the process of designating the Wekiu bug as endangered.

Recently a panel of independent scientists was convened to review the existing data on Wekiu numbers and monitoring. The consensus of the panel was that the Wēkiu bug listing for endangered species status should move forward immediately. The final report is due out imminently.

The proposed mitigation plan that was submitted does not provide a viable alternative to displacing the habitat. There is nothing to indicate that the Wekiu would thrive in the proposed developed habitat.

NASA must inventory and assess the impacts of the proposed action on the Wekiu and on the other threatened and endangered species located in the summit region.

There are some 17 different other species found on the summit and summit slopes and very little is known about the ecology and habits of most of them. Many of these species are unique to Hawai'i or the ecosystem of Mauna Kea. No studies have been done to ascertain the ability to feed, tolerate dust or compaction, life cycles, reproduction rates or details of the required habitat for survival.

### **Social Impacts of the Telescope Industry Must Be Fully Addressed in the DEIS**

The social consequences that are the direct and indirect result of the telescope industry must be determined and assessed. What are the impacts of the wealthiest nations in the world operating in small rural communities on the Island of Hawai'i? The telescope industry does not operate in a vacuum. There are consequences that must be understood and mitigated. For one thing, housing rents have increased significantly. Other considerations must be determined and addressed.

Many people have indicated that there is a distinct sense of loss from the presence of so many structures occupying the summit region. The emotional relationship to the Mountain has been effected. There is a common sense that the mountain is occupied by foreign nations and there is a distinct sense of loss of access, ownership and relationship.

The view plane has been forever changed. This is a significant loss. The destruction of the view plane also impacts Native Hawaiian cultural practices, as some of the ceremonies performed on the summit related to a 360 view, which is no longer obtainable.

### **Economic Impacts of this Industry Must be Addressed**

Observatories from France, Canada, United Kingdom, Japan, the United States, and other countries pay the state of Hawai'i \$1.00 (one dollar) per year in lease rent!

The Observatories are owned by the richest nations in the world. NASA's annual budget is approximately \$14 billion dollars. The leasing of telescope time and sale of data generate millions of dollars of revenue for the telescope industry each year.

The residents of Hawai'i do not benefit at all. In fact, they bear the costs of management, maintenance of public facilities and infrastructure, and liability of contamination, degradation, and the destruction of the mountain's view plane. In addition, taxpayers are subsidizing UH Office of Mauna Kea Management, the development of the (unapproved) Master Plan.

Hawai'i State Auditor conducted an audit of the University of Hawai'i Institute for Astronomy in 1998 to assess the adequacy of Institute's activity on Mauna Kea. The recommendations by the Office of the State Auditor have yet to be carried out. The findings of this audit and the lack of compliance by the University must be addressed in the DEIS.

### **DEIS Use of Scientific Experts**

NASA must work with the local community (environmental and Hawaiian NGO's, Native Hawaiian cultural practitioners, local resource managers, etc) to identify specific needs for scientific information and to produce a list of acceptable scientists to produce this data.

Some of the areas for needed research include: hydrology of the mountain, Wēkiu bug population monitoring, inventory and assessment of other wildlife, flora and fauna on the mountain, soil and sediment sampling, leaching capacity and toxicology screens for mercury, solvents, pesticides, cleaning agents, bacterial/fecal coliform and other likely hazardous substances.

The Wekiu Bug candidacy team of independent scientists did not accept the current scientist Gregg Brenner's data, in part due to the fact that it lacked basic replication protocol. NASA should use independent entomologists who have a proven research record and whose work has been peer-reviewed.

Kepa Maly should be contracted to continue his work on the cultural resources, the religious and cultural significance, and potential impacts from future development on Mauna Kea.

Sincerely,

Cha Smith  
Executive Director

Attachments:  
State of Hawai'i Auditor Report # 98-6 Summary