

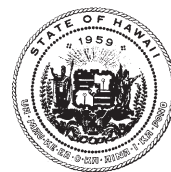
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# Follow-Up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve

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A Report to the  
Governor  
and the  
Legislature of  
the State of  
Hawai'i

Report No. 14-07  
August 2014



**THE AUDITOR**  
STATE OF HAWAII

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## Office of the Auditor

The missions of the Office of the Auditor are assigned by the Hawai'i State Constitution (Article VII, Section 10). The primary mission is to conduct post audits of the transactions, accounts, programs, and performance of public agencies. A supplemental mission is to conduct such other investigations and prepare such additional reports as may be directed by the Legislature.

Under its assigned missions, the office conducts the following types of examinations:

1. Financial audits attest to the fairness of the financial statements of agencies. They examine the adequacy of the financial records and accounting and internal controls, and they determine the legality and propriety of expenditures.
2. Management audits, which are also referred to as performance audits, examine the effectiveness of programs or the efficiency of agencies or both. These audits are also called program audits, when they focus on whether programs are attaining the objectives and results expected of them, and operations audits, when they examine how well agencies are organized and managed and how efficiently they acquire and utilize resources.
3. Sunset evaluations evaluate new professional and occupational licensing programs to determine whether the programs should be terminated, continued, or modified. These evaluations are conducted in accordance with criteria established by statute.
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6. Analyses of proposed special funds and existing trust and revolving funds determine if proposals to establish these funds are existing funds meet legislative criteria.
7. Procurement compliance audits and other procurement-related monitoring assist the Legislature in overseeing government procurement practices.
8. Fiscal accountability reports analyze expenditures by the state Department of Education in various areas.
9. Special studies respond to requests from both houses of the Legislature. The studies usually address specific problems for which the Legislature is seeking solutions.

Hawai'i's laws provide the Auditor with broad powers to examine all books, records, files, papers, and documents and all financial affairs of every agency. The Auditor also has the authority to summon persons to produce records and to question persons under oath. However, the Office of the Auditor exercises no control function, and its authority is limited to reviewing, evaluating, and reporting on its findings and recommendations to the Legislature and the Governor.



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Acting State Auditor  
State of Hawai'i

**Without administrative rules, UH lacks enforcement authority to protect the mountain's resources from the impacts of public and commercial activities.**

Recommendations

Response

Prior Audits

For the full text of this and other reports, visit our website:  
<http://auditor.hawaii.gov/>

# Follow-Up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve

## Report No. 14-07, August 2014

### *UH lacks critical rules but progress has been made on other prior recommendations*

Rising 30,000 feet above the sea floor, Mauna Kea is a sacred and unique place that is highly valued by the people of Hawai'i and by astronomers, many of whom consider it one of the premier sites for astronomical research worldwide. The Mauna Kea Science Reserve includes a 525-acre astronomy precinct where 12 of the mountain's 13 astronomical telescopes are located. The reserve's remaining 10,763 acres are designated as a natural/cultural preservation area. In response to past concerns about the University of Hawai'i's (UH) and the Department of Land and Natural Resources' (DLNR) management of Mauna Kea and its science reserve, we conducted audits in 1998 and 2005. In this report, we found that UH and DLNR have made progress on implementing many of our previous major recommendations but that some issues remain unresolved.

### **UH has not adopted administrative rules to establish authority for its Mauna Kea management responsibilities**

Our prior audit recommended that UH obtain rulemaking authority for the science reserve. In our follow-up, we found that in 2009, the Legislature granted UH authority to adopt and enforce rules governing public and commercial activities such as access to sensitive resource areas, recreational activities, and commercial tour activities. However, UH does not expect to adopt rules until 2017, due in part to avoidable delays in the rulemaking process. In the absence of rules, UH has relied on unauthorized permits and informal agreements to manage and assess fees on commercial tour activities, which totaled nearly \$2 million between FY2009 and FY2013. Until UH adopts rules, it cannot enforce controls for managing public access nor implement certain actions called for in its management plans, thus hampering its ability to fulfill its responsibility to protect the mountain's resources and ensure public health and safety on the mountain. We urge UH to hasten its rulemaking efforts and obtain Board of Regents' approval for the conditions and fee schedule included in commercial tour use permits.

### **UH and DLNR's updated plans, leases, and observatory permits provide an improved framework for protecting Mauna Kea lands**

Our 2005 audit recommended that UH and DLNR create or revise key documents governing their management of Mauna Kea lands to address confusing management plans and outdated leases and permits. In our follow-up, we found that UH has developed several management plans that provide a comprehensive framework for managing and protecting Mauna Kea while balancing the competing interests of culture, conservation, scientific research, and recreation. We also found that contractual terms and other requirements currently preclude UH and DLNR from updating general leases, subleases, and permits; however, they have taken steps to ensure future agreements provide for adequate stewardship of the mountain and reflect current land management. UH and DLNR need to continue their joint efforts to establish and implement the foundation for improved stewardship of Mauna Kea lands.

### **Agencies' responses**

UH agreed that it must complete the rulemaking process and seek Board of Regents approval for commercial fees. It expressed concern about our emphasis on the absence of rules, and cited the existence of other protections. Regarding permit fees for commercial tour activities, UH stated that in November 2006, the UH president authorized the UH-Hilo chancellor to issue temporary permits effective January 2007 and that the law requiring the UH Board of Regents to set fees in a public meeting was not in effect until 2009. UH disagreed that it lacks enforcement authority, contending its rangers are able to control public access. UH also argued that "open meetings" are not one of the permitted *ex parte* communications listed under DLNR's administrative rules and therefore such meetings could not have occurred without the contested case petitioner's agreement.

DLNR declined to comment on the report.

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# **Follow-Up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve**

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Governor  
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Submitted by

**THE AUDITOR**  
STATE OF HAWAI'I

Report No. 14-07  
August 2014

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## Foreword

We conducted this audit pursuant to Section 23-4, Hawai‘i Revised Statutes, which requires the Auditor to conduct postaudits of the transactions, accounts, programs and performance of all departments, offices, and agencies of the State and its political subdivisions.

We wish to express our appreciation for the cooperation and assistance extended to us by the University of Hawai‘i and the Department of Land and Natural Resources, and other organizations and individuals we contacted during the course of our audit.

Jan K. Yamane  
Acting State Auditor

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# Chapter 1

## Introduction

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Rising 30,000 feet above the sea floor, Mauna Kea is the world's tallest insular volcano and arguably one of its most significant cultural and astronomical sites. For many Native Hawaiians, Mauna Kea is a home of deities and a place of spiritual connection with ancestors, history, and the heavens. For astronomers worldwide, Mauna Kea is one of the premier sites for astronomical research. More recently, Mauna Kea has become a popular site for tourists and recreational users from around the globe. The mountain is also home to numerous unique geologic features and species, including several federally- and state-protected species such as the palila bird and the endangered Mauna Kea silversword plant.

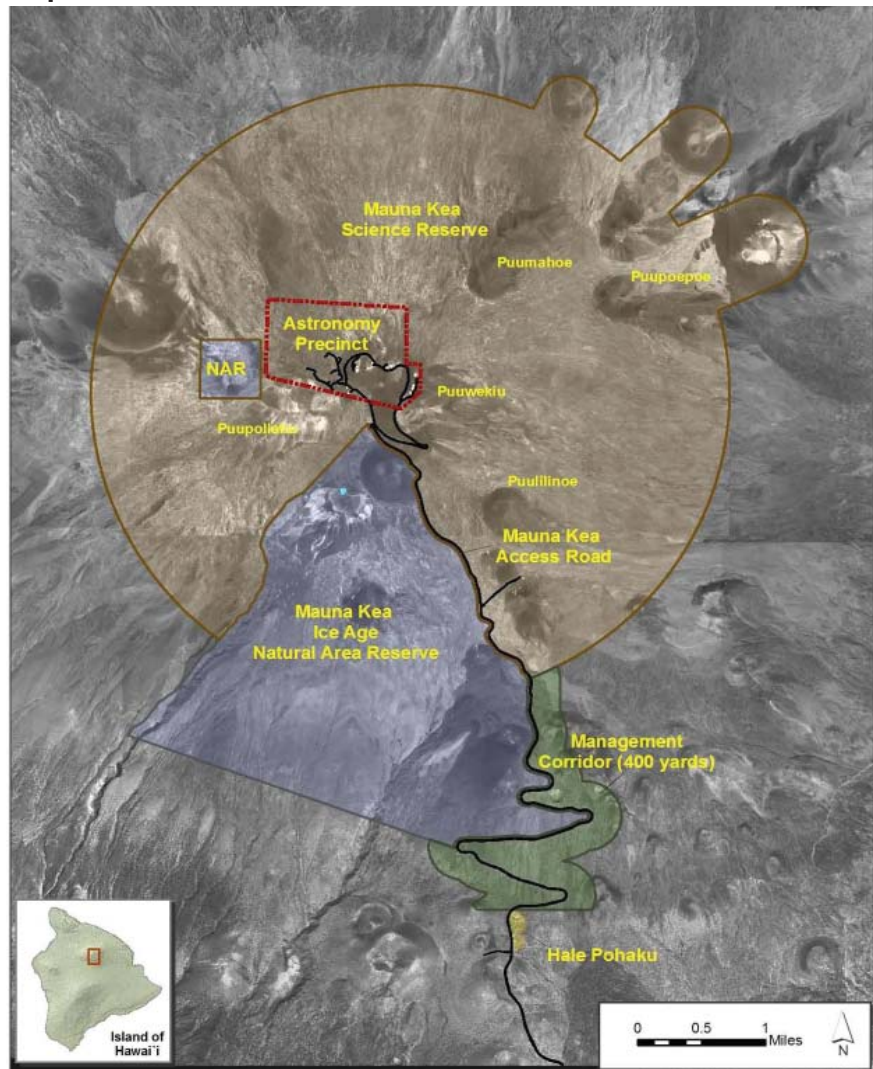
In the past, the Legislature expressed concerns about the State's management of Mauna Kea and the Mauna Kea Science Reserve. Individuals as well as community and Hawaiian organizations have also voiced concerns, alleging a lack of transparency, accountability, and equity regarding the management of Mauna Kea and the science reserve by the University of Hawai'i and the Department of Land and Natural Resources. To address these and other concerns, in 1998 and again in 2005, the Legislature requested that we conduct an audit of the management of Mauna Kea and the Mauna Kea Science Reserve. In response to these requests, we issued our 1998 *Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve* (Report No. 98-6) and our 2005 *Follow-up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve* (Report No. 05-13). This audit examines the extent to which the University of Hawai'i and Department of Land and Natural Resources have addressed our previous findings and recommendations.

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## Background

The Mauna Kea summit area consists of conservation district lands managed by the University of Hawai'i (UH) and the Department of Land and Natural Resources (DLNR). Mauna Kea lands leased to and managed by the university encompass three areas: the Mauna Kea Science Reserve at the summit, the mid-level facilities at Hale Pōhaku, and the Summit Access Road that runs from Hale Pōhaku to the summit. In 1998, 2,033 acres of the 13,321 acres originally leased to the university were withdrawn from the Mauna Kea Science Reserve and are now part of the Mauna Kea Ice Age Natural Area Reserve. Lands adjacent to the Mauna Kea lands managed by UH, such as the Mauna Kea Ice Age Natural Area Reserve and the Mauna Kea Forest Reserve, are managed by DLNR. Exhibit 1.1 shows a map of the Mauna Kea summit area.

**Exhibit 1.1**  
**Map of Mauna Kea Summit Area**



Source: University of Hawai'i, Mauna Kea Comprehensive Management Plan (April 2009)

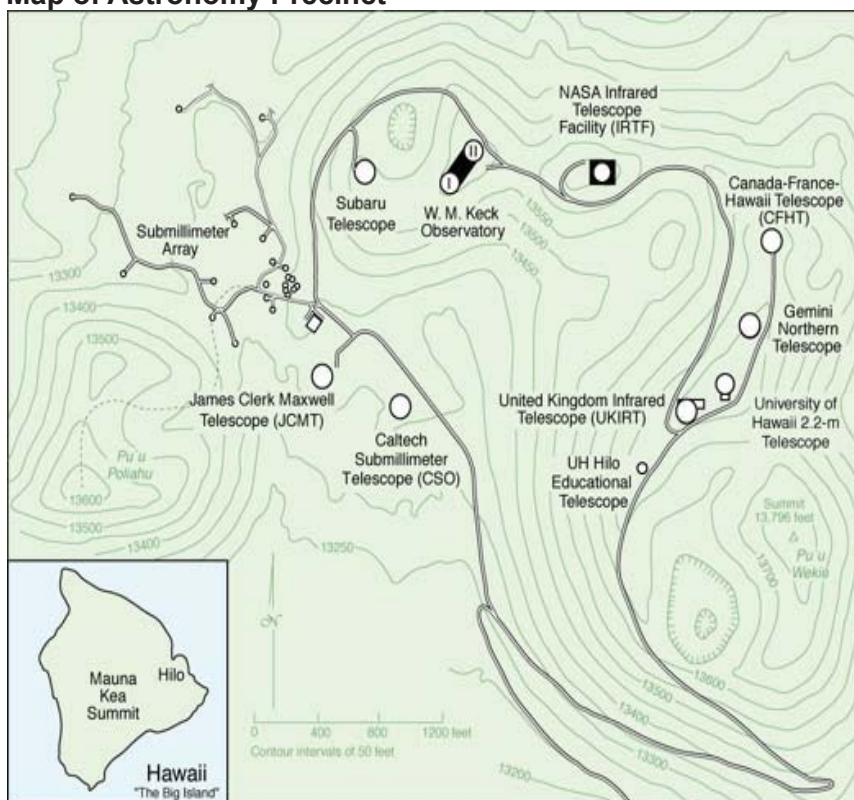
***Mauna Kea lands  
managed by the  
university***

The Board of Land and Natural Resources established the Mauna Kea Science Reserve in June 1968 when it granted UH a 65-year lease for a scientific complex, including observatories. The Mauna Kea Science Reserve encompasses 11,288 acres of State land beginning at an elevation of approximately 11,500 feet and extending to the summit. The science reserve includes a 525-acre astronomy precinct where all development is confined, including 12 of the 13 telescopes. The remaining 10,763 acres are designated as a natural/cultural preservation area in order to protect natural and cultural resources. Exhibit 1.2 lists the telescopes in the Mauna Kea science reserve and Exhibit 1.3 shows a map of the astronomy precinct.

**Exhibit 1.2****List of Mauna Kea Science Reserve Telescopes**

|     | <b>Observatory Name</b>           | <b>Owner/Operator</b>                                                      | <b>Year Built</b> |
|-----|-----------------------------------|----------------------------------------------------------------------------|-------------------|
| 1.  | UH 2.2-m Telescope                | University of Hawai'i                                                      | 1970              |
| 2.  | Canada-France-Hawai'i Telescope   | Canada / France / University of Hawai'i                                    | 1979              |
| 3.  | NASA Infrared Telescope Facility  | National Aeronautics and Space Administration (NASA)                       | 1979              |
| 4.  | United Kingdom Infrared Telescope | United Kingdom (UK)                                                        | 1979              |
| 5.  | Caltech Submillimeter Observatory | Caltech / National Science Foundation (NSF)                                | 1987              |
| 6.  | James Clerk Maxwell Telescope     | UK / Canada / Netherlands                                                  | 1987              |
| 7.  | Very Long Baseline Array          | National Radio Astronomy Observatory / Associated Universities, Inc. / NSF | 1992              |
| 8.  | W. M. Keck Observatory            | Caltech / University of California                                         | 1993              |
| 9.  | W. M. Keck Observatory            | Caltech / University of California                                         | 1996              |
| 10. | Subaru Telescope                  | Japan                                                                      | 1999              |
| 11. | Gemini Northern Telescope         | USA / UK / Canada / Argentina / Australia / Brazil / Chile                 | 1999              |
| 12. | Submillimeter Array               | Smithsonian Astrophysical Observatory / Taiwan                             | 2002              |
| 13. | UH 0.9-m Educational Telescope    | University of Hawai'i                                                      | 2010              |

Source: University of Hawai'i, Institute for Astronomy

**Exhibit 1.3****Map of Astronomy Precinct**

The 21-acre parcel containing the mid-level facilities at Hale Pōhaku is also leased to UH by the DLNR. This parcel, located at the 9,200 foot level on the south slope of Mauna Kea, encompasses the Onizuka Center for International Astronomy, the Visitor Information Station, a support facility for the observatories, and a construction laborer camp. The observatory support facilities include dormitories, dining facilities, and recreational areas; and offer a place for astronomers and technicians to acclimate to the high altitude and live. Exhibit 1.4 shows the Hale Pōhaku mid-level facilities.

#### **Exhibit 1.4**

##### **Photo of Hale Pōhaku Mid-Level Facilities**



Source: University of Hawai'i, Public Access Plan for the UH Management Areas on Mauna Kea (January 2010)

The Summit Access Road parcel includes the access road and a strip of land approximately 400 yards wide on either side of the road, excluding areas within the natural area reserve. The Summit Access Road extends from Hale Pōhaku to the summit through the Mauna Kea Science Reserve.

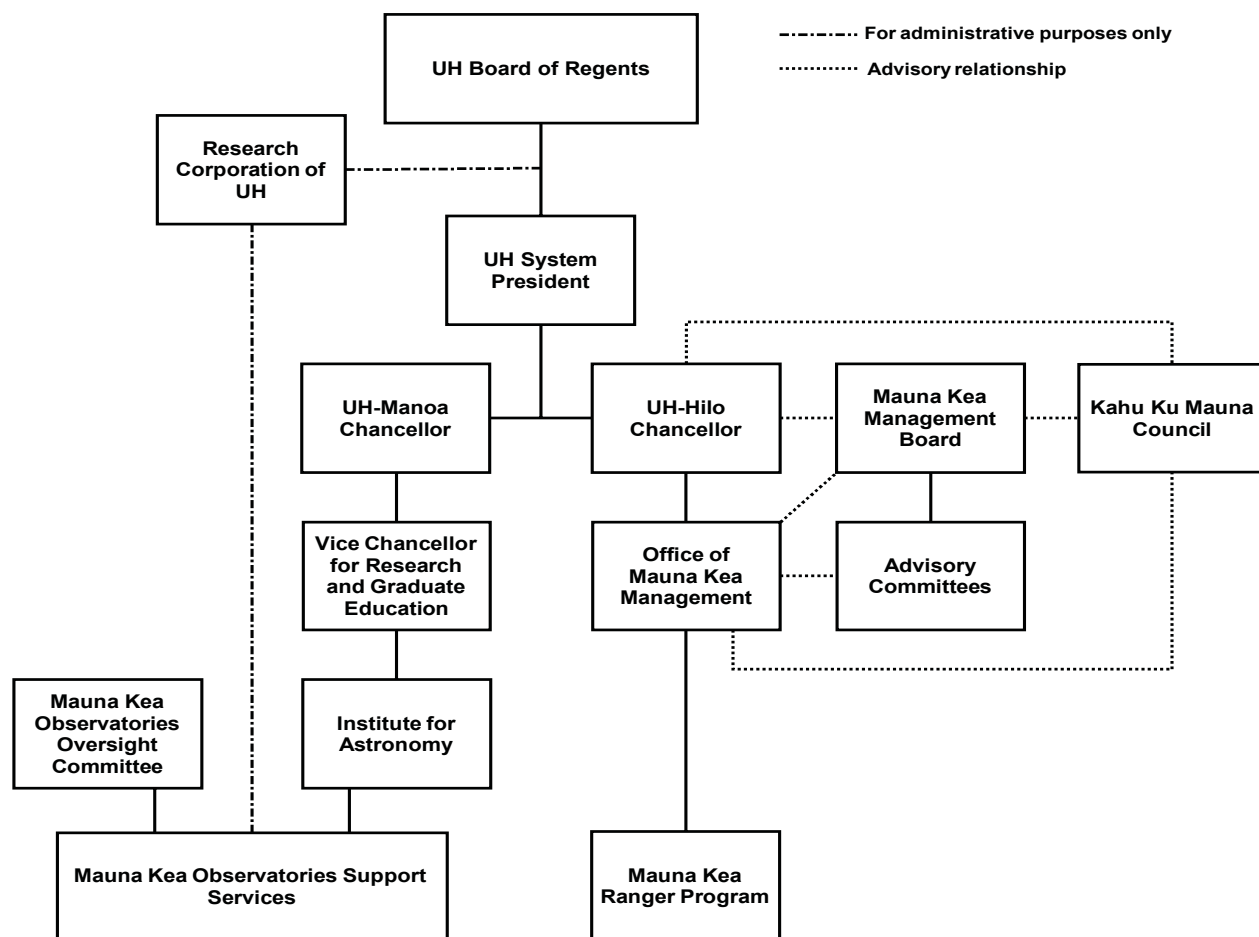
#### ***UH's Mauna Kea-related entities and advisory councils***

The UH has responsibility for managing its leased Mauna Kea lands. The UH Board of Regents has rulemaking and final approval authority over major projects and its acceptance of the 2000 Master Plan prompted creation of the Office of Mauna Kea Management, the Mauna Kea Management Board, and Kahu Kū Mauna, a volunteer advisory council. The office is responsible for managing Mauna Kea lands leased by or

under an easement to the university. The Mauna Kea board advises the UH–Hilo chancellor and office on managing the science reserve and serves as the main community voice for activities and development planned for the science reserve. Kahu Kū Mauna provides advice and direction on Native Hawaiian cultural matters and comprises individuals from the Native Hawaiian community.

Additionally, the UH Institute for Astronomy is responsible for managing the observatories and their operations, but is not a land manager. Exhibit 1.5 shows the relationships between the various UH entities and advisory councils involved in managing Mauna Kea.

**Exhibit 1.5**  
**Organizational Chart of UH Entities and Advisory Councils Involved in Managing Mauna Kea**



Source: University of Hawai'i

The **Office of Mauna Kea Management** is responsible for day-to-day management of the cultural, natural and scientific resources of Mauna Kea lands managed by UH. The office's mission is:

To achieve harmony, balance, and trust in the sustainable management and stewardship of Mauna Kea Science Reserve through community involvement and programs that protect, preserve and enhance the natural, cultural and recreational resources of Mauna Kea while providing a world-class center dedicated to education, research and astronomy.

The office is housed within and funded by UH–Hilo, and its staff report directly to the UH–Hilo chancellor. It also coordinates with other stakeholders, both public and private, and agencies on issues related to the mountain. In addition, the office establishes Mauna Kea management policies and oversees the Mauna Kea Ranger Program, which helps educate visitors, monitors for violations of permitted uses within the Mauna Kea lands managed by UH, and generally helps provide for visitor health and safety.

The **Mauna Kea Management Board** consists of seven community volunteers nominated by the UH–Hilo chancellor and approved by the UH Board of Regents. The board's primary role is to advise the chancellor and office on the management of Mauna Kea. The board also serves as the community's main voice for activities, operations, and land uses planned for Mauna Kea. The board approves members of and works closely with Kahu Kū Mauna.

**Kahu Kū Mauna**, which translates as “Guardians of the Mountain,” is a council comprising nine volunteer members that advises the Mauna Kea board, office, and the UH–Hilo chancellor on Hawaiian cultural matters affecting the Mauna Kea lands managed by UH. The council is made up of individuals from the Native Hawaiian community selected because of their awareness of Hawaiian cultural practices, traditions, and significant landforms as applied to the traditional and customary use of Mauna Kea, and their sensitivity to the sacredness of Mauna Kea.

Other committees have been formed to advise the office and Mauna Kea board on specific issues.

The **Institute for Astronomy** is based at UH–Mānoa and conducts state-of-the-art astronomical research. It is also involved in astronomical education and in developing and managing observatories on Mauna Kea. The institute oversees the conduct and coordination of astronomical research in the science reserve, including long-term planning.

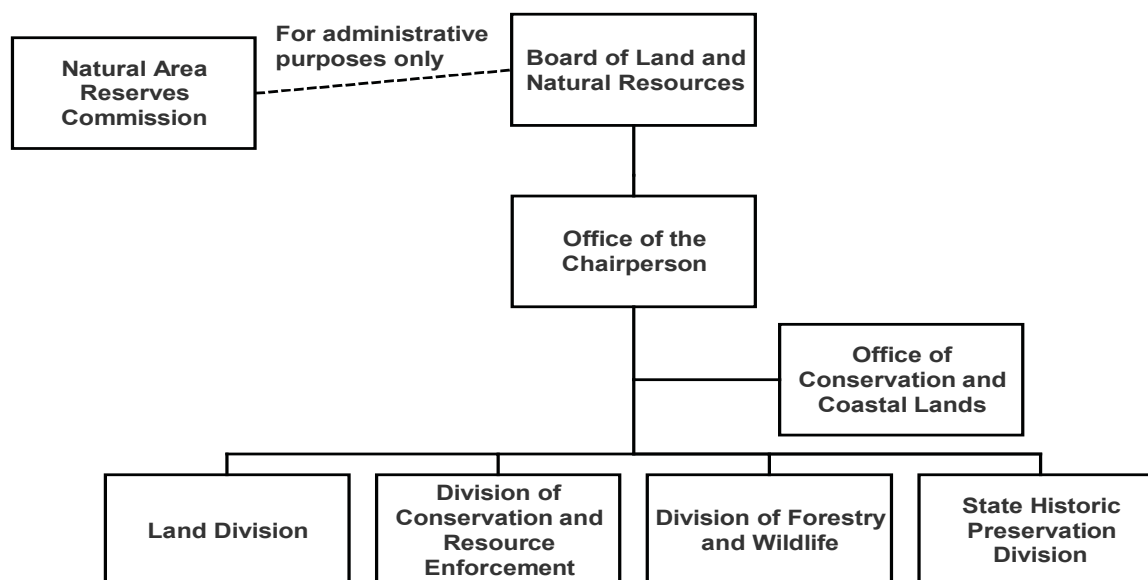
The **Mauna Kea Observatories Oversight Committee** is composed of representatives from all the observatories, including those operated

by the institute. Each observatory pays into accounts held by the Research Corporation of the University of Hawai‘i that are used to fund **Mauna Kea Observatories Support Services** activities, including road maintenance, snow removal, common utilities, facilities maintenance and management at Hale Pōhaku, and the Visitor Information Station.

### ***DLNR’s Mauna Kea-related boards and functional divisions***

The Department of Land and Natural Resources plans, directs, manages, and administers the State’s public lands, including forest reserves, state parks, and historic sites. The Board of Land and Natural Resources serves as head of the department in carrying out its responsibilities, functions, and programs, except on matters relating to water resources. Several divisions within the department share responsibility for managing Mauna Kea lands, including the Office of Conservation and Coastal Lands, the Division of Conservation and Resource Enforcement, the Division of Forestry and Wildlife, the Natural Area Reserves Commission, the Land Division, and the State Historic Preservation Division. Exhibit 1.6 shows the department’s relevant offices and divisions.

**Exhibit 1.6**  
**Organizational Chart of DLNR Boards, Offices, and Functional Divisions Involved in Managing Mauna Kea**



Source: Department of Land and Natural Resources

The **Office of Conservation and Coastal Lands** regulates and enforces land use for approximately two million acres of private and public lands that lie within the State’s conservation district, including Mauna Kea. The office is also responsible for processing conservation district land use requests, developing administrative rules for the conservation district,

investigating complaints and violations, and monitoring all conservation district use permit conditions.

The **Division of Conservation and Resource Enforcement** is responsible for enforcing laws and rules that apply to lands managed by the department, including Mauna Kea. This includes protecting and conserving the State's lands and natural resources, investigating complaints and violations, and monitoring leases, permits, and licenses issued by the department. Since 1981, the division's enforcement officers have had full police powers to enforce all state laws and rules and county ordinances within all State lands.

The **Division of Forestry and Wildlife** is responsible for protecting and managing watersheds, natural resources, outdoor recreation resources, and forest product resources. It also develops and manages statewide programs on forest and wildlife resources as well as natural area reserves and trail and access systems. The division manages the Mauna Kea Ice Age Natural Area Reserve, Mauna Kea Forest Reserve, and outdoor recreation programs and activities that occur on State-owned Mauna Kea lands.

The **Natural Area Reserves Commission** is administratively attached to the land board but its staff is in the Division of Forestry and Wildlife. The commission establishes criteria for determining whether an area is suitable for inclusion within the State reserves system and policies and criteria for the management, protection, and permitted uses of the reserves system.

The **Land Division** plans, develops, leases, and manages public lands and water resources. It manages and enforces leases, permits, executive orders, and other encumbrances for public lands and serves as custodian for all official transactions relating to public lands.

The **State Historic Preservation Division** develops and maintains a comprehensive, statewide historic preservation program to promote the use and conservation of historic properties, including those on Mauna Kea. The division also reviews proposed construction projects, leases, and permits to ensure minimal effects on historic and cultural assets.

### ***Mauna Kea governing documents***

Management of the Mauna Kea summit area is primarily governed by three types of documents: 1) leases and easements; 2) conservation district use permits; and 3) plans.

## **Leases and easements**

The main document that defines the relationship between UH and DLNR is a general lease (No. S-4191) establishing the Mauna Kea Science Reserve. The lease, which runs from January 1, 1968, through December 31, 2033, requires UH to maintain its leased land in a clean and orderly condition, use the land as a scientific complex, and obtain prior written approval from DLNR before subleasing or making improvements. The lease may be terminated at any time by UH or for cause by DLNR. The department reserved its rights to access the science reserve and trails and to regulate hunting and recreation activities within the summit area.

A second general lease between UH and DLNR (No. S-5529) covers the land encompassing the mid-level facilities at Hale Pōhaku. This lease commenced on February 28, 1986, and terminates on February 27, 2041. In addition to the two general leases, the land board granted UH the right to use the Summit Access Road under Grant of Easement No. S-4697 effective September 8, 1981, and ending on December 31, 2033. There are also subleases between UH and the observatories' respective owners for the parcels of science reserve on which each observatory facility is located. These subleases generally identify the parties' responsibilities and requirements.

## **Conservation district use permits**

Conservation district use permits are issued by DLNR for land uses in conservation district lands, including Mauna Kea lands. They require UH to diligently monitor its tenant observatories' activities to protect Mauna Kea's natural and cultural resources.

## **Plans**

Six plans govern UH's Mauna Kea management responsibilities. The 2009 *Mauna Kea Comprehensive Management Plan* guides UH's existing and future activities and uses of its Mauna Kea lands and ensures the ongoing protection of Mauna Kea's cultural, natural and scientific resources. The plan also outlines management component plans and actions to address various needs identified during the development process. The plan supersedes and replaces a 1995 management plan.

As a condition of the land board's approving UH's 2009 plan, UH developed four sub-plans:

1. *Cultural Resources Management Plan for the University of Hawai‘i Management Areas on Mauna Kea* (October 2009), which examines specific activities in terms of potential threats or impacts each may have on historic properties and presents appropriate measures to avoid or minimize impacts;
2. *Natural Resources Management Plan for the UH Management Areas on Mauna Kea* (September 2009), which focuses on protecting and preserving natural resources in the Mauna Kea lands managed by UH;
3. *Decommissioning Plan for the Mauna Kea Observatories* (January 2010), which describes a process for decommissioning observatories on Mauna Kea, including financial planning; and
4. *Public Access Plan for the UH Management Areas on Mauna Kea* (January 2010), which provides a set of principles and policies to guide the university in developing management actions and administrative rules relating to public and commercial activities.

The land board approved UH’s *Comprehensive Management Plan* and the four sub-plans in April 2009 and March 2010, respectively.

The 2000 *Mauna Kea Science Reserve Master Plan* provides a development planning framework for the responsible stewardship and use of the Mauna Kea lands managed by UH through the year 2020. The 2000 plan updates the 1983 *Mauna Kea Science Reserve Complex Development Plan* and applies concurrently with the *Comprehensive Management Plan*.

### ***Program funding***

The Office of Mauna Kea Management is funded by UH–Hilo with allocations from the State general fund and the UH–Hilo Research and Training Revolving Fund. In 2009, the Legislature also established the Mauna Kea Lands Management Special Fund to assist UH in regulating the use of Mauna Kea lands. Moneys deposited into this fund are legislative appropriations; net rents from leases, licenses, and permits and fees; charges for use of Mauna Kea lands and facilities; moneys collected for violations of applicable statutes and rules; and interest earned or accrued on special fund moneys. Exhibit 1.7 summarizes allocations, revenues, and expenditures of the Office of Mauna Kea Management from FY2009 to FY2013.

**Exhibit 1.7****Office of Mauna Kea Management Allocations, Revenues, and Expenditures, FY2009–FY2013**

|                                                                                   | <u>2009</u>           | <u>2010</u>           | <u>2011</u>         | <u>2012</u>           | <u>2013</u>           |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
| <b>AVAILABLE FUNDS</b>                                                            |                       |                       |                     |                       |                       |
| Research and Training Revolving Fund                                              | \$ -                  | \$ 565,362            | \$ -                | \$ 15,622             | \$ 1,050,000          |
| Encumbered Funds                                                                  | 605,464               | 373,439               | 334,325             | 439,496               | 974,955               |
| Allocation                                                                        | 678,396               | 845,636               | 997,624             | 864,934               | 813,898               |
| Commercial Tour Operators                                                         | 378,555               | 361,602               | 384,754             | 407,468               | 420,932               |
| Unencumbered Funds from Previous Year                                             | 28,206                | 140,490               | 563,770             | 842,177               | 283,326               |
| <b>Total Available Funds</b>                                                      | <b>\$ 1,690,621</b>   | <b>\$ 2,286,529</b>   | <b>\$ 2,280,473</b> | <b>\$ 2,569,697</b>   | <b>\$ 3,543,111</b>   |
| <b>EXPENDITURES</b>                                                               |                       |                       |                     |                       |                       |
| Research and Management Programs                                                  | \$ (309,327)          | \$ (634,051)          | \$ (153,399)        | \$ (385,226)          | \$ (528,191)          |
| Salaries                                                                          | (223,477)             | (237,584)             | (283,389)           | (367,625)             | (521,931)             |
| Ranger Expenses                                                                   | (138,407)             | (131,218)             | (157,695)           | (171,080)             | (227,562)             |
| Visitor Information Station and Infrastructure                                    | (160,673)             | (177,697)             | (247,785)           | (166,748)             | (138,485)             |
| Consultant Services                                                               | (206,066)             | (73,219)              | (38,823)            | (50,005)              | (90,247)              |
| Vehicles                                                                          | (80,003)              | (54,892)              | (75,808)            | (117,586)             | (81,426)              |
| Public Relations                                                                  | (17,906)              | (35,471)              | (9,382)             | (10,353)              | (35,069)              |
| Supplies, Equipment and Furniture                                                 | (15,885)              | (31,149)              | (14,401)            | (30,245)              | (19,598)              |
| Travel                                                                            | (9,933)               | (6,259)               | (11,806)            | (8,908)               | (9,450)               |
| Board and Kahu Kū Mauna                                                           | (11,199)              | (6,699)               | (6,312)             | (3,640)               | (5,192)               |
| Design Review                                                                     | (3,816)               | (195)                 | -                   | -                     | -                     |
| <b>Total Cash Expenditures</b>                                                    | <b>\$ (1,176,692)</b> | <b>\$ (1,388,434)</b> | <b>\$ (998,800)</b> | <b>\$ (1,311,416)</b> | <b>\$ (1,657,151)</b> |
| Total Encumbered Funds (excluding OHA)                                            | (297,728)             | (186,294)             | (214,514)           | (668,479)             | (931,187)             |
| Total Encumbered OHA Funds <sup>1</sup>                                           | (75,711)              | (148,031)             | (224,982)           | (306,476)             | (390,662)             |
| <b>Unencumbered Funds<sup>2</sup></b>                                             | <b>\$ 140,490</b>     | <b>\$ 563,770</b>     | <b>\$ 842,177</b>   | <b>\$ 283,326</b>     | <b>\$ 564,111</b>     |
| <b>Mauna Kea lands management special fund cash balance as of fiscal year-end</b> | <b>\$ 95,117</b>      | <b>\$ 76,430</b>      | <b>\$ 77,729</b>    | <b>\$ 145,354</b>     | <b>\$ 224,173</b>     |

Notes:

<sup>1</sup> Payment of \$472,603 was made to the Office of Hawaiian Affairs in July 2013 covering the period FY2007 through FY2013.<sup>2</sup> Includes a cash balance of \$95,117; \$76,430; \$77,729; \$145,354; and \$224,173 in the Mauna Kea Lands Management Special Fund for FY2009–FY2013, respectively.

Source: Office of Mauna Kea Management

**Prior Audits**

We have conducted two prior audits of the management of Mauna Kea and the Mauna Kea Science Reserve. Our 1998 *Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve* (Report No. 98-6) found that UH's management of the science reserve was inadequate to ensure the protection of Mauna Kea's natural resources. The university had focused primarily on the development of Mauna Kea and tied the benefits gained to its research program. Policies and action plans to ensure the protection of Mauna Kea outlined

in management plans were often late and weakly implemented. New technology also required the university to change its approach to future development within the science reserve. We also found that DLNR needed to improve its protection of Mauna Kea's natural resources, particularly the conservation district permitting process and enforcement. The department's administrative requirements were frequently overlooked or not completed in a timely manner.

In our 2005 *Follow-up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve* (Report No. 05-13), we found that while UH and DLNR had made improvements in managing Mauna Kea and the science reserve, more needed to be done. The university still lacked administrative rule-making authority, exercised weak permit monitoring, and management plans for the science reserve needed to be updated to reflect current use and management and to provide increased transparency and accountability of the university. We also found that the leases, subleases, and permits were dated and that DLNR, as landowner, did not provide a mechanism to ensure compliance with lease and permit requirements. The department's divisions did not coordinate their efforts in protecting natural resources, and a management plan for the Mauna Kea Ice Age Natural Area Reserve was needed.

Appendix A summarizes our 2005 recommendations and the status of those recommendations.

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## Objectives

1. Assess the extent to which the University of Hawai'i has addressed our prior findings and recommendations related to updating planning documents for the Mauna Kea lands it manages.
2. Assess the extent to which the University of Hawai'i and the Department of Land and Natural Resources have addressed our prior findings and recommendations related to leases, subleases, and permits.
3. Make recommendations, as appropriate.

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## Scope and Methodology

We examined the University of Hawai'i's and the Department of Land and Natural Resources' efforts to address our findings and recommendations from FY2006–FY2014. We assessed whether the agencies have implemented policies and procedures to ensure coordinated management of Mauna Kea and the science reserve and avoid duplication of effort. We reviewed relevant state and federal laws and rules, literature, memoranda, plans, budget information, and

other documents. We interviewed UH and DLNR personnel involved in managing Mauna Kea.

Our work was performed from December 2013 to April 2014 in accordance with the Office of the Auditor's *Manual of Guides* and generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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# Chapter 2

## UH Lacks Critical Rules, but Progress Has Been Made on Other Prior Recommendations

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In 1968, the Department of Land and Natural Resources (DLNR) established the Mauna Kea Science Reserve when it leased 11,288 acres of conservation lands around Mauna Kea's summit to the University of Hawai'i (UH) for a scientific complex and science reserve. While the Board of Land and Natural Resources has ultimate authority over managing the science reserve, certain responsibilities regarding land use and activities are performed by UH. Our 2005 audit found that DLNR's oversight and UH's management of these lands had improved since our 1998 audit but the agencies still needed to address certain stewardship issues, including updating planning documents, leases, and permits, and implementing monitoring systems.

Our current audit found that UH and DLNR have made progress on implementing many of our major recommendations from 2005, thus demonstrating their commitment to protecting Mauna Kea and its summit area. However, UH has yet to adopt administrative rules implementing its management responsibilities. We found UH issued unauthorized permits to regulate and assess fees for commercial tour activities, putting Mauna Kea's resources and UH's Mauna Kea revenues at risk. Without administrative rules, UH still lacks enforcement authority to effectively protect the mountain from public activities and ensure public health and safety within the summit area.

We also found that UH and DLNR have laid the foundation for improved stewardship by developing or updating key documents governing the management of Mauna Kea lands, as we recommended in 2005. The UH has developed a comprehensive management plan and four supplementary sub-plans that provide a thorough framework for protecting and managing its Mauna Kea lands. And although UH and DLNR have so far been unable to update their general leases, observatory subleases, and observatory conservation district use permits (due to set termination dates), they have taken steps to ensure future agreements provide for adequate stewardship of the mountain and reflect current land management practices.

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## Summary of Findings

1. The University of Hawai‘i has not adopted administrative rules despite obtaining rulemaking authority in 2009. As a result, UH lacks enforcement authority necessary to protect Mauna Kea’s resources from public and commercial activities and ensure the public’s health and safety. In the absence of rules, UH has also relied on unauthorized permits and informal agreements to manage and assess fees on commercial activities.
2. The UH and Department of Land and Natural Resources have laid the foundation for improved stewardship by developing and updating key documents governing the management and protection of Mauna Kea lands managed by UH. The university has developed several management plans that provide a comprehensive framework for managing and protecting Mauna Kea’s unique and fragile resources. The UH and DLNR are also updating general leases, subleases, and permits to improve stewardship of these lands.

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## UH Authority Over Its Mauna Kea Management Responsibilities Not Yet Established By Rules

The UH Office of Mauna Kea Management carries out UH’s management responsibilities for the Mauna Kea Science Reserve, Hale Pōhaku, and Summit Access Road. Despite the office’s charge to protect Mauna Kea’s cultural, natural and scientific resources and to help ensure public health and safety on the mountain, the office’s authority to do so has not yet been established in administrative rules. To date, no rules for Mauna Kea have been adopted by UH, even though it obtained the relevant rulemaking authority in 2009. The office estimates rules will not be in place until 2017.

In the absence of rules, the office issued unauthorized permits to regulate commercial tour operators and charge commercial tour fees. The office also lacks enforcement authority to protect the mountain’s resources from the impacts of public and commercial activities, even though it is responsible for protecting those resources. Until it adopts administrative rules for its Mauna Kea lands, UH cannot fulfill its stewardship responsibilities.

### ***Prior audit recommended UH obtain rulemaking authority for the Mauna Kea science reserve***

Our 2005 audit found that the Board of Land and Natural Resources had general rulemaking authority for DLNR’s conservation district lands, but UH lacked such authority for its leased science reserve lands. Without rules, UH had no authority to issue or enforce commercial permits and cannot enforce rules and cite violators. We concluded that if UH was to be held accountable for the mountain’s stewardship, it must balance granting public access with enforcing limits to that access in order to

protect Mauna Kea's natural and cultural resources. We recommended that UH obtain rulemaking authority for the science reserve and Hale Pōhaku areas. Four years after our 2005 recommendation, UH was granted rulemaking authority to regulate public and commercial activities within the science reserve, Hale Pōhaku, and the connecting roadway. The UH commenced rulemaking shortly thereafter, but suspended those efforts for two years while a contested case hearing was in progress.

### **Despite obtaining rulemaking authority in 2009, UH is years away from adopting rules**

Administrative rulemaking is one of the methods by which state agencies carry out their tasks. The purpose of rules is to implement laws, such as those relating to Mauna Kea lands, and to establish operating procedures for state agencies. Generally, statutes provide a skeleton, or superstructure, for state programs; agencies are then required to “fill in the details” and implement those programs on a day-to-day basis. Agencies have considerable discretion in applying the law, particularly where a controlling statute is expressed in general terms.<sup>1</sup>

Act 132, Session Laws of Hawai'i 2009, clarified UH's authority to manage its leased Mauna Kea lands by granting UH express authority to adopt rules relating to public and commercial activities permitted or occurring on these lands. The Legislature articulated its policy as follows:

Administrative rules governing public and commercial activities on the Mauna Kea lands are necessary to provide effective protection of cultural and natural resources from certain public activities, and to help ensure public health and safety. Administrative rules currently in effect for the surrounding forest reserve and natural area reserve lands managed by the department of land and natural resources do not apply to the Mauna Kea lands.<sup>2</sup>

Examples of public and commercial activities to be governed by administrative rules include general access to sensitive resource areas, such as specific cultural features and identified natural resource habitat areas; traffic and off-road vehicle management and control; alcohol consumption; recreational activities; and commercial tour activities. The Legislature also contemplated that UH's rules should establish administrative procedures for rule violations.

In 2010, shortly after the law took effect in 2009, the Office of Mauna Kea Management established an Administrative Rules Committee composed of both UH and DLNR representatives. The committee began developing rules by combining existing DLNR rules and the policies and guidelines for managing public and commercial activities described in UH's Public Access Plan. In 2011, a petitioner in the contested case

proceedings for the Thirty-Meter Telescope (TMT) project observatory permit asked UH and DLNR to cease communicating regarding draft rules. The petitioner was concerned that continued communication between the land board (who would decide the case) and UH (the TMT project applicant) would violate the *ex parte* communication rule. An *ex parte* communication occurs when a party to a case talks or writes to or otherwise communicates directly with the decisionmaker in the case without the other parties' (in this case, the concerned petitioner's) knowledge. On the advice of its legal counsel, UH suspended rulemaking to avoid violating, or appearing to violate, the *ex parte* communication rule.

Two years later, in April 2013, the contested case proceedings concluded and UH resumed rulemaking activities. As part of our fieldwork in 2014, we reviewed UH's draft rules and found them to be substantially incomplete. Although a few sections appeared near completion, the majority were mere placeholders with language yet to be developed. The office said it wants to continue to consult with community groups as it develops rules. It estimated rules likely would not be adopted until 2017—eight years after UH obtained rulemaking authority in 2009, and 12 years after our 2005 audit recommendation. Exhibit 2.1 highlights significant events related to UH's rulemaking efforts.

### Exhibit 2.1

#### Timeline of Events Related to UH's Mauna Kea-Related Rulemaking Efforts

| Date                 | Event                                                                                                                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>June 2009</b>     | Legislature passes Act 132, SLH 2009, granting UH authority to adopt administrative rules governing public and commercial activities within the Mauna Kea lands it manages, effective July 1, 2009.                          |
| <b>2010</b>          | UH convenes an Administrative Rules Committee.                                                                                                                                                                               |
| <b>February 2011</b> | Land board grants a contested case hearing for the Thirty-Meter Telescope (TMT). UH subsequently suspends rulemaking pursuant to a TMT case petitioner's request and to avoid violating <i>ex parte</i> communication rules. |
| <b>April 2013</b>    | UH resumes rulemaking upon conclusion of the TMT contest case proceedings.                                                                                                                                                   |
| <b>2017</b>          | Estimated adoption date for UH's administrative rules.                                                                                                                                                                       |

Source: Office of the Auditor

#### **Delays in rulemaking could have been avoided if UH and DLNR held public meetings under *sunshine* law**

We understand UH's desire to avoid violating or appearing to violate the *ex parte* communication rule while the contested case proceedings were under way, but we question why UH did not explore communicating with DLNR through open meetings under the State's *sunshine* law, Chapter 92, Hawai'i Revised Statutes (HRS). Meetings held in compliance with sunshine law comport with the State's policy that the formation and conduct of public policy—the discussions, deliberations, decisions,

and actions of government agencies—shall be conducted as openly as possible.<sup>3</sup> Meetings held under such public scrutiny protect the public’s interest, would not have violated the ex parte communication rule, and would have allowed UH and DLNR to proceed with rulemaking and avoid undue delay.

Avoiding delay is important because UH must adopt rules pursuant to Chapter 91, HRS, *Administrative Procedure*, which is a lengthy process. Chapter 91 requires, among other things, that agencies follow certain specified procedures before imposing upon the public requirements that affect private rights, including holding public hearings on proposed rules. The steps involved in making rules are numerous and time-consuming, often taking years to complete. Exhibit 2.2 illustrates these steps for a sample department. The process may vary among departments given differences in statutory requirements, but most are substantially similar.

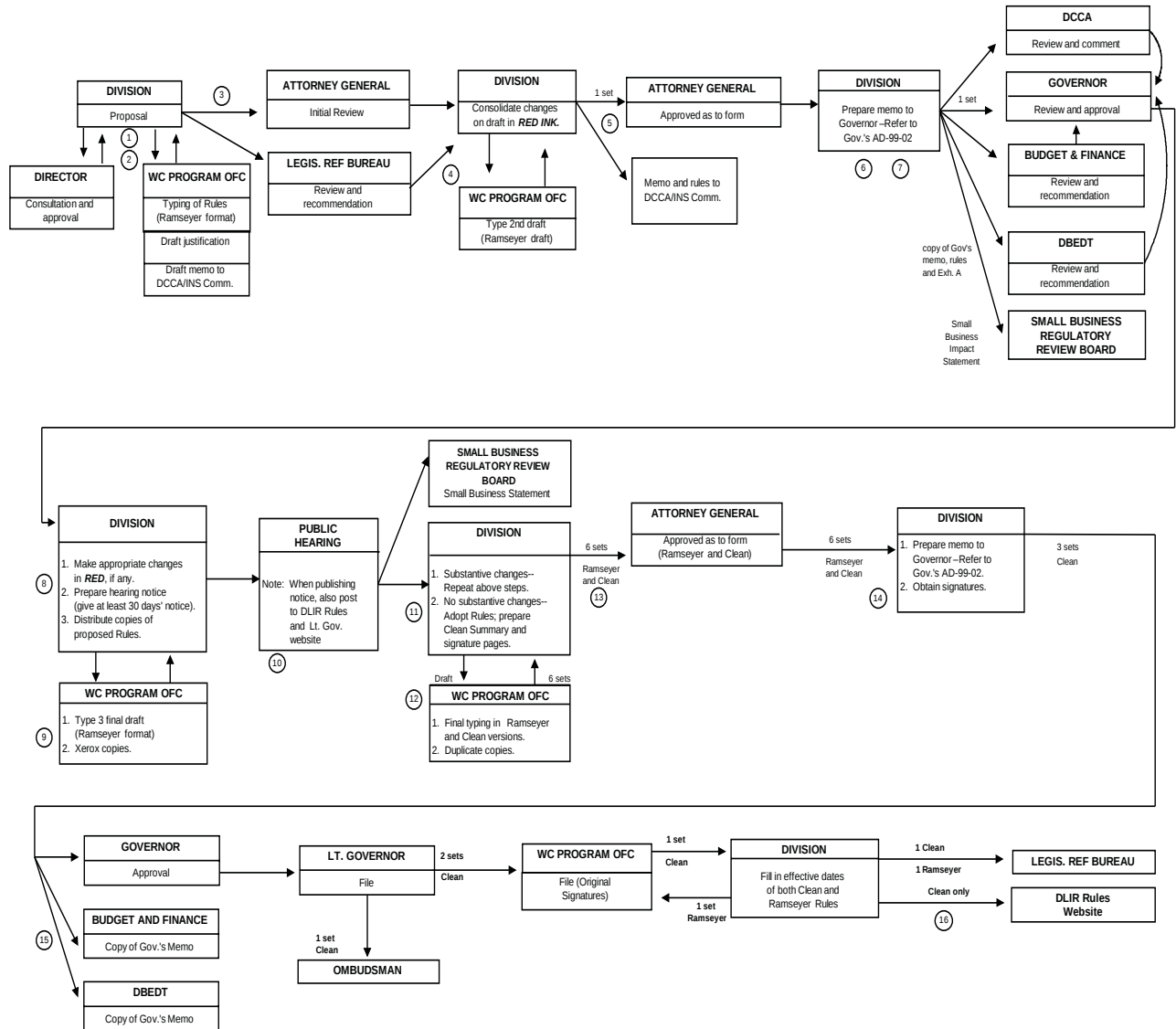
In addition to fulfilling Chapter 91 rulemaking requirements, the office plans to continue consulting with its advisory council, Kahu Kū Mauna, and community groups. To meet its statutory requirement to hold at least one public hearing on the Island of Hawai‘i, the office also plans to hold separate public hearings on sections of its proposed rules under the belief that hearings limited to specific sections will be more constructive. Multiple public hearings as contemplated by the office will likely expand the already lengthy rulemaking process, leaving public and commercial activities on UH’s Mauna Kea lands uncontrolled for years to come.

***UH issued  
unauthorized  
permits and charged  
commercial tour  
operators \$2 million  
over five years***

Commercial tour fees, approximately \$391,000 annually, are an important source of funding for the maintenance of infrastructure on Mauna Kea and the office’s ongoing stewardship efforts. (Exhibit 2.3 shows a commercial tour group visiting the Mauna Kea summit.) We found, however, that UH issued temporary commercial tour permits without obtaining final approval from the Board of Regents and relied on those permits to charge commercial tour fees. Between FY2009 and FY2013, UH assessed unauthorized tour operator fees totaling nearly \$2 million, representing between 12 and 22 percent of the office’s total available funds for those years. In addition, UH continues to recognize those unauthorized permits and collect fees via informal agreements with tour operators. Such arrangements put both the mountain’s resources and the office’s funding at risk.

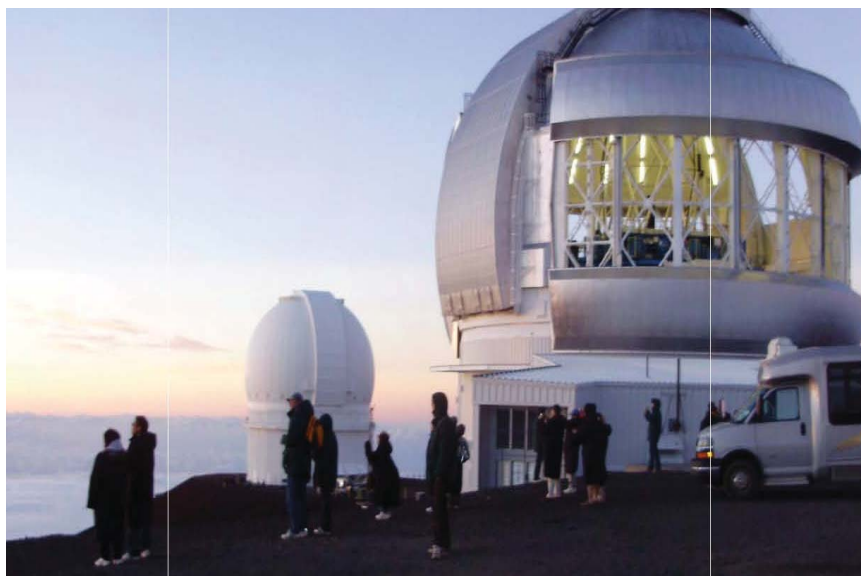
## Exhibit 2.2

### Flow Chart of Sample Department's Process to Adopt Administrative Rules



Source: Office of the Auditor

**Exhibit 2.3**  
**Photo of Commercial Tour Group**



Source: University of Hawai'i, Public Access Plan for the UH Management Areas on Mauna Kea (January 2010)

Since 2005, the UH has relied on commercial permits to control, and to assess fees and penalties for, commercial tour operations. However, the fees charged under the UH-issued permits were unauthorized—initially because they were not approved by the Board of Regents, and later because they were established neither by administrative rules nor by the Board of Regents in an open meeting.

In December 2000, the land board transferred commercial tour operator permitting to the UH, subject to the review and approval of the attorney general. In 2004, the attorney general confirmed that the transfer was legal; in January 2005, UH accepted the land board's delegation of the permitting function. Because UH did not have policies and procedures in place to issue such permits, the Board of Regents authorized the Office of Mauna Kea Management to issue temporary permits and collect fees under permit conditions previously imposed by DLNR, provided the office sought Board of Regents approval.

Thereafter, the office developed new permits with revised conditions, including changes to fees and penalties. The new permits increased the fee for each commercial tour passenger from \$2 to \$6 and added a clause allowing the office to suspend commercial tour activities for operators who did not comply with permit conditions, among other changes. In June 2006, the office sought Mauna Kea Management Board approval, but neglected to obtain Board of Regents approval. In January 2007, the

office began issuing the new, unauthorized temporary permits. When the temporary commercial use permits expired in 2009, the office elected to stop issuing permits until UH adopted administrative rules for commercial activities. In the interim, the office allowed then-permitted commercial tour operators to continue operations under the conditions of the expired permits. No new tour operators were allowed. The office's executive director reported that these previously permitted tour operators have voluntarily complied with the conditions of their expired permits, including paying the unauthorized fees.

The unauthorized fee predicament could have been solved in 2009 had UH established permit fees in an open meeting. A law passed in 2009—codified as Section 304A-1902, HRS, *Mauna Kea lands; fees; lease agreements*—exempts UH from certain rulemaking requirements as long as fees are established at a Board of Regents open public meeting pursuant to Chapter 92, HRS. Had the office adhered to this provision, permit fees could have been legally established. Instead, the office continues to charge unauthorized fees and has done so since 2007.

Over five fiscal years (FY2009 through FY2013), the office collected almost \$2 million in unauthorized fees from commercial tour operators, as shown in Exhibit 2.4. We have not determined the amount of fees collected for FY2006 through FY2008. These moneys provide critical funding for the office's management activities, including operating the Mauna Kea ranger program, the Visitor Information Station, and maintaining roads and facility infrastructure on the mountain. Loss of this revenue would likely result in decreased Mauna Kea management activity or an increase in general fund support. We urge the office to request the Board of Regents establish fees at an open public meeting as soon as possible. Additionally, the office may want to determine whether unauthorized fees collected since FY2007 should be returned to tour operators.

**Exhibit 2.4**  
**Commercial Tour Operator Fee Collections, FY2009–FY2013**

|                                                               | FY2009      | FY2010      | FY2011      | FY2012      | FY2013      |
|---------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Total Available Funds for the Office of Mauna Kea Management  | \$1,690,621 | \$2,286,529 | \$2,280,473 | \$2,569,697 | \$3,543,111 |
| Commercial Tour Operator Fees                                 | \$ 378,555  | \$ 361,602  | \$ 384,754  | \$ 407,468  | \$ 420,932  |
| Funds from Commercial Tour Fees as % of Total Available Funds | 22%         | 16%         | 17%         | 16%         | 12%         |
| Average Commercial Tour Fees for FY2009–FY2013                |             |             |             |             | \$ 390,662  |
| Total Commercial Tour Fees for FY2009–FY2013                  |             |             |             |             | \$1,953,311 |

Source: Office of the Auditor

***UH lacks enforcement authority over public and commercial activities***

One of UH's biggest challenges is addressing the growing number of visitors to the mountain. Exhibit 2.5 shows the large influx of visitors on snow days and a resulting traffic jam, which presents a challenge for Mauna Kea rangers and necessitates hiring special duty officers.

**Exhibit 2.5**

**Photo of 2008 Traffic Jam on the Summit Access Road on a Heavy Snow Day**



Source: University of Hawai'i, Public Access Plan for the UH Management Areas on Mauna Kea (January 2010)

In addition to granting UH express authority to adopt rules relating to 2009 public and commercial activities, Act 132, Session Laws of Hawai'i 2009, also authorized UH to initiate enforcement proceedings against individuals who violate those rules and to assess fines up to \$10,000 per offense. Before UH can initiate enforcement proceedings and assess fines, however, it must adopt rules to implement the law. Without them, UH must rely on DLNR's Division of Conservation and Resources Enforcement (DOCARE) officers and county police to carry out this function. In addition, the office cannot implement 12 of its management actions aimed at protecting Mauna Kea's resources until rules are adopted.

**UH's plan controls public and commercial activities but its rangers cannot cite violators**

At present, UH follows guidelines established in its Public Access Plan for managing existing and future public and commercial activities to protect Mauna Kea and employs several methods to control public access in the summit area. The plan advocates managing public access using the lowest level of control necessary. At the lowest level, UH encourages

*personal responsibility* through educational efforts to inform the public about appropriate behavior. The UH also exercises *educational control* by providing interpretive signs and brochures and encouraging direct interaction with volunteers and visitors by Mauna Kea rangers and Visitor Information Station staff. Low-level controls are generally effective and voluntary compliance with rangers' recommendations is the norm. An administrator at DLNR reported that ranger presence in the summit area has curbed visitor problems such as off-roading and alcohol consumption.

At a higher level, UH applies *contractual controls*, whereby entities execute some form of contract with UH to conduct their activities, such as observatories and film companies. *Situational enforcement* involves UH hiring special-duty county police officers to provide law enforcement when large crowds are expected, such as on snow days.

The highest level of enforcement encompasses *collaborative* and *primary law enforcement*. Collaborative enforcement entails coordination between UH's Mauna Kea rangers and law enforcement authorities, where rangers serve as the "eyes and ears" on the mountain, while federal, state, and county law enforcement authorities respond to violations reported by rangers and enforce existing laws, rules, and regulations. The UH has not sought primary law enforcement capacity for its rangers, as developing such capacity is expensive, requiring significant retraining or hiring of qualified staff.

We support UH's comprehensive and collaborative approach to controlling and managing public activities on the mountain. However, we reiterate that rules are needed to implement rangers' authority to enforce UH's public access management controls and existing laws and rules that apply to Mauna Kea lands under UH's control. As the primary protection presence on the mountain, fully authorized rangers with enforcement powers would play a critical role in fulfilling UH's stewardship duties and provide an added layer of protection for Mauna Kea.

### **UH's Office of Mauna Kea Management cannot implement 12 management actions until rules are adopted**

The office's 2009 Comprehensive Management Plan includes 12 management actions relating to controlling public access and commercial activities on the mountain. Here again, implementation is contingent on adopting rules, which may not occur until 2017. Until then, Mauna Kea's unique cultural, natural and scientific resources may be at risk.

Management actions cover a wide array of protection activities. Notably, five such actions relate to protection of cultural resources, including

developing and adopting guidelines for placing and removing offerings, visiting and using ancient shrines, constructing new cultural features, scattering cremated human remains, and building *ahu* or “stacking of rocks.” Another management action calls for UH to manage its Mauna Kea lands in a way that prohibits activities that will negatively impact astronomical resources. Other actions include enforcing the prohibition on off-road vehicles; implementing policies to reduce impacts of recreational hiking; developing a hunting policy in coordination with DLNR; and ensuring the UH has input on all film permits to ensure filming activities do not interfere with observatories’ operation or negatively impact the mountain’s resources.

Inclusion of these and other management actions in the Comprehensive Management Plan demonstrates the office’s commitment to its stewardship responsibilities. Until UH adopts the rules needed to implement certain management actions, however, it cannot fulfill its responsibility to protect the mountain’s resources. We urge the office to hasten its rulemaking efforts.

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## **Updated Plans, Leases, and Permits Improve Framework for Protecting Mauna Kea Lands**

In 2005, our major audit recommendations focused on creating or revising key documents governing UH’s and DLNR’s management of Mauna Kea lands to address confusing management plans and outdated leases and permits. Our current audit found that UH has developed or updated its plans, providing an improved framework for protecting the Mauna Kea lands it leases. We also found that UH and DLNR have initiated the process of updating leases and observatories’ conservation district use permits.

### ***Prior audit recommended updating governing documents***

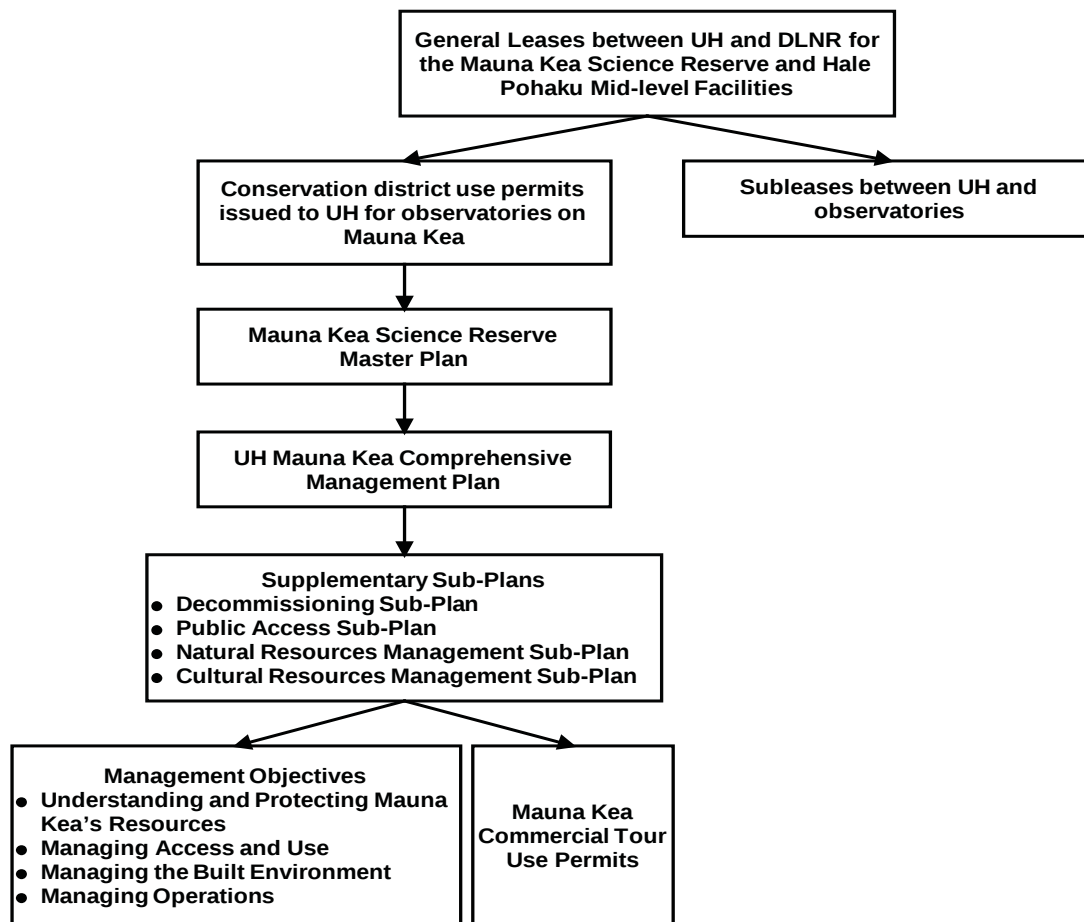
Our 2005 audit found that UH’s 2000 *Mauna Kea Science Reserve Master Plan* lacked certainty and clarity; and changes in UH’s management plans over the years and inconsistencies between them created a complex web of responsibility. We also found that UH needed to update its management plans to reflect current usage of the science reserve and increase the transparency and accountability of UH’s management of these lands. We recommended that UH revise and update various planning documents, including its master plan, to clearly assign the numerous roles and responsibilities for managing Mauna Kea and reflect stewardship issues resolved with DLNR. We also recommended that UH develop a comprehensive management plan to provide increased protection for natural, cultural, and historic resources of the summit and Hale Pōhaku areas.

Our 2005 audit also found that the general leases, subleases, and observatory permits between DLNR and UH were dated. We

recommended they be revised to assign responsibility for penalties and fines to the relevant observatory sublessees and to resolve stewardship issues between UH and DLNR. Exhibit 2.6 describes, in order of precedence, the documents governing management of Mauna Kea lands leased by UH.

## Exhibit 2.6

### Documents Governing the Management of Mauna Kea Lands Leased by the University



Source: Office of the Auditor

### ***UH's updated plans guide management and protection of Mauna Kea lands and their natural, cultural and scientific resources***

Since our last audit, UH has created five plans for managing the Mauna Kea lands it leases from DLNR. Although the master plan remains unchanged because it was intended to guide planning and development on the mountain through 2020, UH relied on the plan's management policy guidelines to develop its 2009 *Mauna Kea Comprehensive Management Plan* (CMP) and four supplementary sub-plans. These plans outline how UH intends to carry out its stewardship responsibilities while allowing for multiple uses of the mountain. The four sub-plans are the Cultural Resources Management Plan (October 2009); Natural

Resources Management Plan (September 2009); Decommissioning Plan (January 2010); and Public Access Plan (January 2010).

Together, these plans address our prior recommendations by clearly assigning roles and responsibilities of the 16 UH and DLNR entities that share Mauna Kea management responsibilities. Furthermore, they provide a comprehensive framework for managing and protecting Mauna Kea's unique and fragile resources from the impacts of astronomical research and other activities at the summit. The Office of Mauna Kea Management has made some progress in implementing some of its immediate and short-term management actions outlined in the CMP, but is delayed on others.

Appendix B summarizes the roles and responsibilities of UH's entities and advisory councils and DLNR's boards and functional divisions in relation to Mauna Kea.

### **Plans address four objectives—protecting resources and managing access, astronomy facilities, and operations**

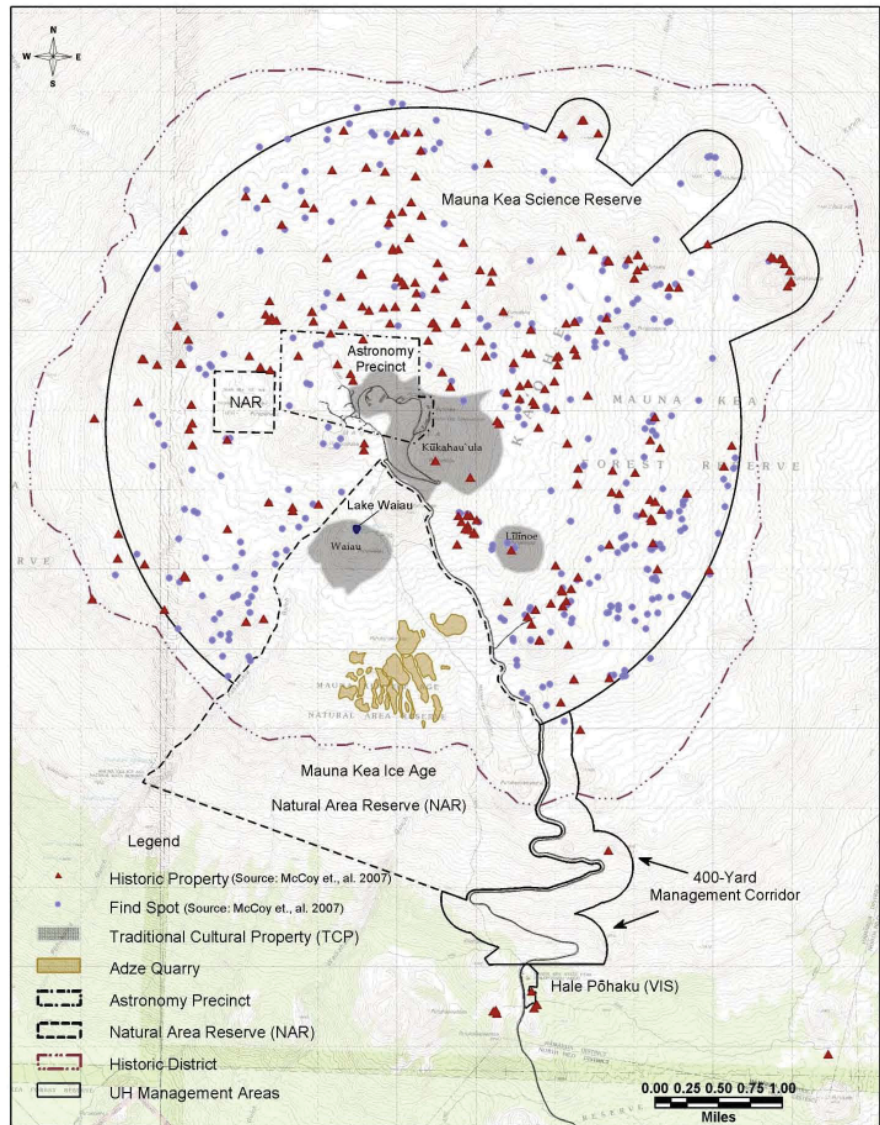
The CMP outlines the office's four primary objectives for its management of Mauna Kea lands and the detailed management actions that address a range of challenges or needs specific to each objective:

1. Understand and protect Mauna Kea's cultural, natural and scientific resources by preserving and enhancing the natural and cultural resources of Mauna Kea lands managed by UH while also improving UH's education and outreach efforts, and protecting Mauna Kea's unique environment for astronomical observation;
2. Manage access, activities, and uses by providing for visitor use and safety as well as scientific research and ensuring knowledge of and compliance with rules and regulations;
3. Manage the built environment by minimizing the impact of existing infrastructure's maintenance needs, construction, and other components of areas containing manmade structures while providing general guidance on proposed projects and site recycling, decommissioning, demolition and restoration for facilities in Mauna Kea lands managed by UH; and
4. Manage operations by providing recommendations relating to implementation of the CMP and on emergency procedures, and outlining the process for monitoring, evaluating, and updating the CMP.

Exhibits 2.7, 2.8, and 2.9 illustrate examples of the historic, cultural, and natural resources that UH's management plans were developed to protect.

### Exhibit 2.7

#### Map of Historic Properties, Traditional Cultural Properties, and "Find Spots" Identified in the Mauna Kea Science Reserve



Source: University of Hawai'i, Public Access Plan for the UH Management Areas on Mauna Kea (January 2010)

**Exhibit 2.8**  
**Photo of Upright Stone Shrines**



Source: University of Hawai'i, A Cultural Resources Management Plan for the University of Hawai'i Management Areas on Mauna Kea (October 2009)

**Exhibit 2.9**  
**Photos of Native Flora and Fauna Found on Mauna Kea**



Mauna Kea silversword (*Argyroxiphium sandwicense sandwicense*).  
Photo by Jennifer Garrison



Palila (*Loxioides bailleui*)  
Photo by Jack Jeffrey

Source: University of Hawai'i, Natural Resources Management Plan for the UH Management Areas on Mauna Kea (September 2009)

We also found that the office established a reporting system to ensure transparency and accountability by keeping the Mauna Kea board, land board, and the public informed of the office's activities in carrying out its management responsibilities and the direction it will take in the future. Specifically, it prepares and submits to the land board annual progress reports that detail the office's management goals, objectives, and actions for the year and describe progress and actions planned to improve the program in the next year.

### **The office is making progress on some management actions but is delayed on others**

The office's implementation strategy lays the foundation for effective stewardship of Mauna Kea. However, late implementation of a handful of management actions—such as the creation of an invasive species prevention and control program—means stewardship and management needs, like limiting damage to Mauna Kea's ecosystems caused by invasive species atop Mauna Kea, remain unmet. Exhibit 2.10 shows photos of some invasive species in the Mauna Kea area that UH needs to control.

#### **Exhibit 2.10 Photos of Invasive Species on Mauna Kea**



Fireweed (*Senecio madagascariensis*)  
Photos by Forest & Kim Starr



Common dandelion (*Taraxacum officinale*)  
Photos by Forest & Kim Starr

Source: University of Hawai'i, Natural Resources Management Plan for the UH Management Areas on Mauna Kea (September 2009)

The office developed a management actions implementation schedule with timeframes ranging from *immediate* (1-3 years), to *short-term* (4-6 years), *mid-term* (7-9 years), and *long-term* (10+ years). Some actions are *as needed*, with implementation only when activities such as construction or decommissioning activities occur. Others are classified as *ongoing*, meaning the action will continue indefinitely as part of the office's continuing responsibilities. An example of an ongoing action is reporting disturbances of a shrine or burial site to the Kahu Kū Mauna council, DOCARE, and the DLNR State Historic Preservation Division. The office's implementation strategy also included prioritizing management actions to help the office determine and plan for the best way to protect Mauna Kea's resources. Examples of such actions include research efforts for establishing baseline data such as botanical and visitor surveys and monitoring efforts to assess the status of cultural, natural and scientific resources over time.

We found that the office has made some progress in implementing its prioritized management actions. For example, UH obtained the authority to adopt and enforce rules governing public and commercial activities within the Mauna Kea Science Reserve, Hale Pōhaku, and the Summit Access Road, but has yet to adopt such rules. The office has also completed several archaeological surveys to identify cultural and historical sites, studies of traditional and customary practices exercised within the summit area, and a monitoring plan for historic properties.

The office has yet to complete several management actions that should have been implemented within one to three years of adoption of the 2009 CMP. The office says it expects to complete two of these immediate management actions in the next year—a burial treatment plan that is awaiting final reviews and approval from other state agencies so it can be adopted and an informational brochure and online resource orientation for those who work on the mountain. The office anticipates these actions will be completed by the end of 2015.

Other late management actions should be completed by the end of 2016. The office intends to procure consultants to evaluate the need for improvements to the Hale Pōhaku facilities and the Summit Access Road and to develop plans for any necessary improvements and address issues with traffic and parking. The office is also developing procedures and protocols for cultural matters and controlling invasive species, but requires further consultation with cultural practitioners and other state agencies.

***UH and DLNR have taken steps to update general leases, subleases, and conservation district use permits***

Our prior report recommended updating the science reserve general lease, subleases, and conservation district use (observatory) permits that govern the UH-leased lands atop Mauna Kea. Although contractual terms and other requirements currently preclude UH and DLNR from updating these documents, both have taken steps to do so as soon as they are able. The Office of Mauna Kea Management has also taken steps to ensure that observatories comply with newly adopted management policies.

**Land board approval of updated general leases is deferred approximately two years pending the university's completion of an EIS**

General lease No. S-4191, which was executed in 1968, established the Mauna Kea Science Reserve and UH's stewardship responsibility for these lands through 2033. The department's personnel do not maintain a regular presence on Mauna Kea; unless UH and the land board execute a new lease to extend UH's tenure beyond 2033, there is no guarantee for long-term management and protection of the mountain. In addition, UH will have to cease its use of Mauna Kea for astronomical research after 2033.

To address this looming issue, in 2013 the UH asked the land board to cancel its existing science reserve lease and issue a new one. The proposed lease includes provisions designed to improve stewardship of the science reserve by addressing internal changes made by UH in how it manages Mauna Kea lands; reflecting management actions and reporting requirements adopted by the land board; assisting in implementing legislation concerning Mauna Kea lands managed by UH; and providing a basis for developing observatory subleases. For example, the proposed lease stipulates that the land will be managed pursuant to UH's management plans, thus memorializing UH's new management policies.

After reviewing the proposed lease provisions and considering various state agencies' comments, DLNR's Land Division recommended that the land board authorize the new lease. However, UH has asked the land board to defer approving the proposed lease until after UH performs an environmental impact statement (EIS) pursuant to Chapter 343, HRS. The office director and land board chair estimate the EIS process will take two years to complete.

**Updated science reserve general lease enables UH to heighten stewardship standards in observatory subleases**

Existing observatory subleases lack provisions providing for adequate stewardship of Mauna Kea, such as ones addressing cultural and historical preservation. We determined that UH is contractually

hampered from revising these subleases until it executes an updated general lease. Sublease provisions generally allow for amendments or renegotiations only upon the renewal, extension, or renegotiation of the science reserve general lease. However, we also found that future subleases, modeled on the recently executed TMT sublease, will provide for heightened stewardship and observatory accountability. Exhibit 2.11 lists all the subleases within the Mauna Kea Science Reserve.

**Exhibit 2.11**  
**Mauna Kea Observatory Subleases**

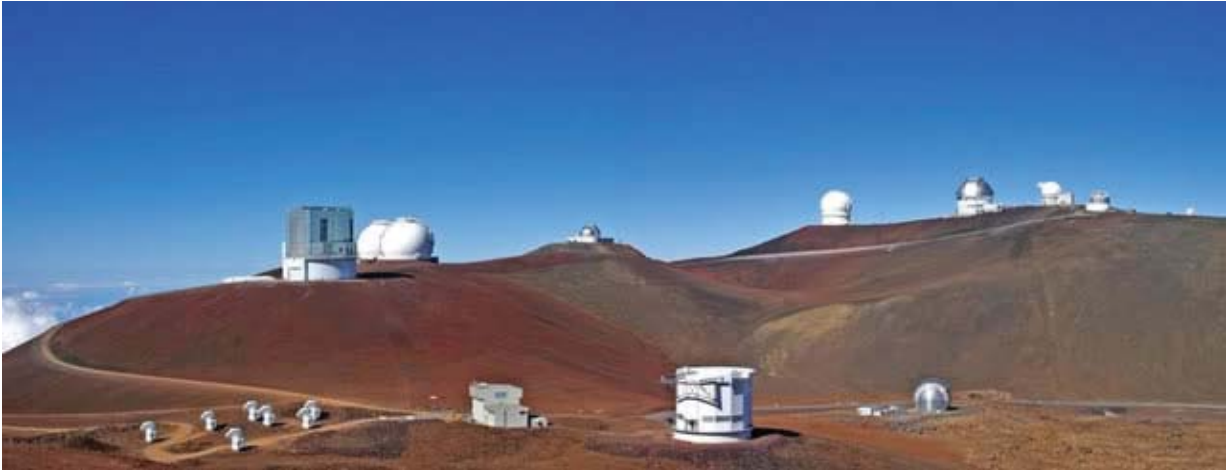
| Observatory Name                     | Sublease Term |
|--------------------------------------|---------------|
| 1. NASA Infrared Telescope Facility  | 1974 – 2033   |
| 2. Canada-France-Hawai'i Telescope   | 1975 – 2033   |
| 3. United Kingdom Infrared Telescope | 1978 – 2033   |
| 4. Caltech Submillimeter Observatory | 1983 – 2033   |
| 5. James Clerk Maxwell Telescope     | 1984 – 2033   |
| 6. W. M. Keck Observatory            | 1985 – 2033   |
| 7. W. M. Keck Observatory            | 1985 – 2033   |
| 8. Very Long Baseline Array          | 1990 – 2033   |
| 9. Subaru Telescope                  | 1992 – 2033   |
| 10. Gemini North Telescope           | 1994 – 2033   |
| 11. Submillimeter Array              | 1995 – 2033   |

Source: Office of Mauna Kea Management

The UH has developed new sublease provisions that it intends to include in all future subleases, as evidenced by the TMT sublease. Unlike earlier observatory subleases, the TMT sublease includes provisions that support UH's and DLNR's ongoing management activities on Mauna Kea, including providing for substantial monetary rents and allowing UH to hold the TMT liable for lease and observatory permit violations. By including these provisions, UH has laid the groundwork for a new generation of observatory subleases that will support UH's efforts to protect Mauna Kea's resources. Exhibit 2.12 shows the observatories within the Mauna Kea Science Reserve.

**Exhibit 2.12**

**Photo of Observatories in the Summit Region**



Source: Mauna Kea Observatories Support Services

**DLNR cannot update existing observatory permits, but new permits will address cultural and historical preservation of Mauna Kea**

Almost all of the conservation district use permits for Mauna Kea telescope facilities (observatory permits) were issued prior to 1994. Although our prior report recommended updating these permits, DLNR has no plans to do so due to the contractual nature of the permits. Exhibit 2.13 is a photo of a UH telescope for which an observatory permit was issued in 1977.

**Exhibit 2.13**

**Photo of UH 2.2-Meter Telescope**



Source: Office of the Auditor

The observatory permits have no expiration date and will remain active as long as the respective astronomy facilities are in operation unless a permit is rendered void or revoked by the land board. However, we found the office and DLNR have developed conditions to include in all future observatory permits designed to safeguard the mountain's cultural and historical resources. Unlike some of the existing observatory permits, future permits will include the standard permit conditions outlined in the Board of Land and Natural Resources' rules relating to conservation district lands. Future permits will also include special conditions requiring compliance with the CMP and its four supplementary sub-plans, and submission of annual reports on compliance with permit conditions and land uses. The recently issued TMT permit will serve as the model for future permit conditions. Exhibit 2.14 shows an artist's rendering of the TMT observatory.

**Exhibit 2.14**

**Artist's Rendering of the Thirty-Meter Telescope**



Source: Courtesy of TMT Observatory Corporation

The office has also taken steps to ensure that observatories subject to existing permits are aware of and comply with UH's CMP and sub-plans. The office's director has informed the observatory directors of UH's new management plans and the office's new requirements and expectations for observatories. The office also provides observatories with the full list of CMP management actions and requires that construction project proposals include action plans describing how the observatory will comply with any actions that apply to the contemplated project. The office will not allow any proposed projects to proceed unless the observatory's actions plans adequately address the applicable management actions.

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## Conclusion

Mauna Kea is a special place that is highly valued by the people of Hawai‘i and by astronomers around the world. In 2005, we found that while UH and DLNR had made positive changes to protect Mauna Kea and the science reserve since our 1998 audit, more needed to be done. In our follow-up of that audit, we found that UH and DLNR have addressed many of our recommendations, including developing and implementing management plans for Mauna Kea’s natural cultural, and historic resources. The result is an improved and more comprehensive framework that coordinates the agencies’ efforts to manage and protect Mauna Kea while balancing the competing interests of culture, conservation, scientific research, and recreation.

However, we also found that although it has made good-faith efforts to do so, UH has not adopted administrative rules governing public and commercial activities on Mauna Kea. Without them, UH’s authority over these activities, including its ability to collect permitting fees, is in question. We urge UH to redouble its efforts to adopt administrative rules. Doing so will help establish its authority to manage the Mauna Kea lands it leases and enable UH to fully implement its plans to safeguard the mountain and its unique and fragile resources for present and future generations.

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## Recommendations

1. The University of Hawai‘i should:
  - a. Adopt administrative rules governing public and commercial activities as soon as possible, but no later than 2017;
  - b. Obtain UH Board of Regents’ approval for the conditions and fee schedule included in commercial tour use permits issued by UH–Hilo via a Board of Regents open public meeting pursuant to Chapter 92, HRS;
  - c. Determine whether unauthorized fees collected since FY2007 should be returned to commercial tour operators;
  - d. Complete Comprehensive Management Plan (CMP) management actions, whose implementation under the CMP implementation plan is scheduled as “immediate,” as soon as possible, but no later than the end of 2016;
  - e. Further its efforts to renew general leases for UH-managed lands on Mauna Kea by continuing to work with DLNR and proceeding with the EIS process under Chapter 343, HRS; and

- f. Renegotiate with existing sublessees to amend subleases to include provisions that address stewardship issues, as modeled by the provisions in the 2014 TMT sublease, following execution of the new general leases for UH-managed lands on Mauna Kea.
- 2. The Department of Land and Natural Resources should:
  - a. Continue working with UH to renew the general leases for the UH-managed lands on Mauna Kea and ensure the leases are substantially in the form DLNR's Land Division recommended for approval by the land board; and
  - b. Use additional stewardship-related conditions contained within the TMT observatory permit as a template in all new observatory permits issued for the summit of Mauna Kea.

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## Notes

### Chapter 2

1. Hawai'i Administrative Rules Drafting Manual, Part I – Chapter 3, Administrative Rulemaking, 2nd edition, June 1984, page 7.
2. Act 132, Session Laws of Hawai'i 2009.
3. Section 92-1, Hawai'i Revised Statutes, *Declaration of policy and intent*.

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## Appendix A

### Status of Recommendations from 2005 *Follow-up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve* (Report. No. 05-13)

| RECOMMENDATION                                                                                                                                                                                                               | PURPOSE                                                                                                                                                                       | STATUS               | COMMENTS                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recommendations to the University of Hawai'i</b>                                                                                                                                                                          |                                                                                                                                                                               |                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| (1) Obtain the authority to promulgate administrative rules for the Mauna Kea Science Reserve to authorize the Office of Mauna Kea Management to protect cultural and natural resources.                                     | Without rules, the university was unable to regulate and control public access and commercial activities within the Mauna Kea lands managed by UH.                            | Closed               | In 2009, the Legislature passed Act 132, SLH 2009, granting UH authority to adopt administrative rules governing public and commercial activities within the Mauna Kea lands managed by UH.<br><br>Rulemaking commenced in 2010, but was delayed for two years due to contested case proceedings.                                                                                                                       |
| (2) Revise and update planning documents, including the master plan and leases and subleases, that will clearly assign roles and responsibilities for managing Mauna Kea and reflect stewardship matters resolved with DLNR. | The 2000 Master Plan lacked certainty and clarity and changes in and inconsistencies between management plans over the years had resulted in a complex web of responsibility. | Open but in progress | <b>Master Plan:</b> UH did not update the 2000 Master Plan but used the policy guidelines therein to develop several management plans.<br><br><b>General Leases:</b> The land board deferred action on approving new leases until UH completes an EIS.<br><br><b>Subleases:</b> UH is unable to update existing subleases until a new science reserve general lease is executed.                                        |
| (3) Develop, implement, and monitor a comprehensive management plan for natural, cultural, and historic resources of the summit and Hale Pōhaku area.                                                                        | UH needed to update its management plans for the science reserve to reflect current use and management, and to provide increased transparency and accountability.             | Open but in progress | UH developed the Mauna Kea Comprehensive Management Plan and four sub-plans. The land board approved the comprehensive management plan and the four sub-plans in April 2009 and March 2010, respectively.                                                                                                                                                                                                               |
| (4) Implement and enforce a permit and sublease monitoring system for astronomy precinct observatories to promote responsible stewardship and prevent damage to the environment.                                             | The lack of vigilant monitoring put the Mauna Kea summit and other areas of the science reserve used by its tenants at risk for damage.                                       | Closed               | The office and Mauna Kea rangers monitor observatories for compliance with their permit conditions through formal, semi-annual inspections and informal weekly follow-up inspections.<br><br>The office's director reports all major violations to the Office of Conservation and Coastal Lands, which is responsible for enforcing permit conditions, and the two offices coordinate remediation plans for violations. |

| RECOMMENDATION                                                                                                                                                                                    | PURPOSE                                                                                                                                                    | STATUS               | COMMENTS                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recommendations to the Department of Land and Natural Resources</b>                                                                                                                            |                                                                                                                                                            |                      |                                                                                                                                                                                                                                                                                                                                                                                          |
| (5) Revise and update leases, subleases, and permits with UH to resolve stewardship issues.                                                                                                       | Leases and subleases lacked mechanisms to directly fine the subleasing entities for violations.                                                            | Open but in progress | DLNR did not and will not update the existing observatory permits as they will remain active as long as the respective astronomy facilities they relate to are in operation. Future permits will require compliance with UH's newly adopted management policies.                                                                                                                         |
| (6) Implement and enforce a permit monitoring system to prevent further damage to Mauna Kea and hold accountable UH and other responsible parties.                                                | DLNR had not regularly monitored UH's compliance with observatory permit requirements.                                                                     | Closed               | The status of this recommendation is discussed further at recommendation #3 above.                                                                                                                                                                                                                                                                                                       |
| (7) Increase communication between the divisions involved in the management of Mauna Kea by creating a mechanism for collaboration, especially for monitoring post-permit application activities. | DLNR's divisions had not coordinated their efforts in protecting natural resources.                                                                        | Closed               | DLNR's divisions communicate and share information with each other when issues arise and there is an overlap in jurisdiction.<br><br>The Office of Mauna Kea Management is the coordinating agency for managing Mauna Kea lands leased by UH and DLNR's Mauna Kea Ice Age Natural Area Reserve and it works with the various DLNR divisions when necessary to address management issues. |
| (8) Support the Office of Mauna Kea Management's completion of the historic management plan for Mauna Kea.                                                                                        | An incomplete historic preservation management plan put Mauna Kea's historical and cultural resources at risk.                                             | Closed               | UH has since developed a Cultural Resources Management Plan, which was reviewed by DLNR and approved by the land board in 2010.                                                                                                                                                                                                                                                          |
| (9) Complete a management plan for the protection of the Mauna Kea Ice Age Natural Area Reserve.                                                                                                  | DLNR had no plans specifically for the Mauna Kea Ice Age Natural Area Reserve.                                                                             | Open but in progress | DLNR's Division of Forestry and Wildlife is currently developing the natural resources component of the Ice Age Natural Area Reserve management plan and intends to use a consultant for the cultural resources component.                                                                                                                                                               |
| (10) Seek a written legal opinion from the Department of the Attorney General regarding the transfer of commercial permitting to UH.                                                              | DLNR could not delegate its responsibilities for permitting functions for commercial operations on Mauna Kea without legislative or constitutional action. | Closed               | The Legislature recognized UH's authority to manage and control public and commercial activities within the Mauna Kea lands it leases through the passage of Act 132, SLH 2009. The Act clarifies that UH has authority over commercial permits and related fees.                                                                                                                        |

## Appendix B

### Mauna Kea Managing Entities' Roles and Responsibilities

| Entity                                    | Roles and Responsibilities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UH entities</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1. Board of Regents                       | <ul style="list-style-type: none"> <li>Has final project approval and design review authority over major projects within the Mauna Kea lands managed by UH.</li> <li>Regulates public and commercial tour activities.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Chancellor, University of Hawai'i–Hilo | <ul style="list-style-type: none"> <li>Oversees and provides general direction to the OMKM.</li> <li>Is authorized to sign commercial tour use permits.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3. Office of Mauna Kea Management         | <ul style="list-style-type: none"> <li>Manages and protects the cultural and natural resources of the Mauna Kea lands managed by UH on a day-to-day basis, including coordinating monitoring programs and databases.</li> <li>Establishes Mauna Kea management policies.</li> <li>Coordinates with other stakeholders, both public and private, and agencies on issues and/or activities related to the mountain and functions as a referral and facilitative agency for issues that are outside its authority but related to the mountain.</li> <li>Reviews project designs and ensures that any proposed project is consistent with the 2000 <i>Master Plan</i> and the 2009 <i>Comprehensive Master Plan</i>.</li> <li>Oversees and processes commercial activity permits.</li> <li>Oversees the Mauna Kea Ranger Program, which it manages jointly with Mauna Kea Observatories Support Services.</li> </ul> |
| 4. Mauna Kea Management Board             | <ul style="list-style-type: none"> <li>Serves as community's voice advising the UH–Hilo Chancellor and Office of Mauna Kea Management on activities, uses, operations, proposed land uses, and decommissioning planned for the Mauna Kea lands managed by UH.</li> <li>Approves members of and works closely with Kahu Kū Mauna.</li> <li>Together with the Office of Mauna Kea Management, implements the management policy guidelines and recommendations presented in the 2000 <i>Mauna Kea Science Reserve Master Plan</i>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| 5. Kahu Kū Mauna                          | <ul style="list-style-type: none"> <li>Voluntary advisory council that provides advice and direction to the Mauna Kea Management Board, the Office of Mauna Kea Management and UH on Hawaiian cultural matters affecting the Mauna Kea lands managed by UH. Includes reviewing site development plans for proposed facilities, assisting in developing rules and management guidelines, and developing programs to educate visitors on the cultural, spiritual, historical, and archaeological values of Mauna Kea.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   |
| 6. Institute for Astronomy                | <ul style="list-style-type: none"> <li>Oversees the conduct and coordination of astronomical research in the Mauna Kea Science Reserve, including long-term planning.</li> <li>Provides astronomical education and develops and manages observatories on Mauna Kea.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Entity                                                | Roles and Responsibilities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7. Mauna Kea Observatories Oversight Committee        | <ul style="list-style-type: none"> <li>Manages account funded by the observatories and to pay for Mauna Kea Observatories Support Services activities and utilities.</li> <li>Provides direction to Mauna Kea Observatories Support Services.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8. Mauna Kea Observatories Support Services           | <ul style="list-style-type: none"> <li>Oversees and provides general maintenance and logistical services to observatories, facilities at Hale Pōhaku, and the Visitor Information Station, including safety and emergency services and road maintenance and snow removal.</li> <li>Supports the Mauna Kea Ranger Program, which it manages jointly with the Office of Mauna Kea Management.</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |
| 9. Mauna Kea Rangers                                  | <ul style="list-style-type: none"> <li>Provides information to visitors about Mauna Kea's unique natural, cultural, and scientific resources.</li> <li>Conducts daily patrols and monitor for violations of the permitted uses within the UH Management Areas.</li> <li>Inspects observatories bi-annually for compliance with their conservation district use permit conditions.</li> <li>Generally helps provide for the health and safety of visitors, including providing emergency assistance for lost or injured people in the summit area, managing road closures, assisting stranded motorists, coordinating litter removal, and conducting trail maintenance.</li> <li>Conducts summit patrols to observe and document activities.</li> </ul> |
| <b>DLNR entities</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 10. Board of Land and Natural Resources               | <ul style="list-style-type: none"> <li>Serves as head of DLNR in carrying out its responsibilities, functions, and programs, except on matters relating to water resources.</li> <li>Administers and regulates the use of land within Conservation Districts and the Natural Area Reserves system.</li> <li>Issues general leases for the Mauna Kea Science Reserve and Hale Pōhaku facilities and grants easement for the Summit Access Road.</li> </ul>                                                                                                                                                                                                                                                                                              |
| 11. Office of Conservation and Coastal Lands          | <ul style="list-style-type: none"> <li>Develops administrative rules for conservation districts.</li> <li>Regulates, enforces, and processes requests for land uses within conservation districts, including Mauna Kea.</li> <li>Monitors all leases, permits and licenses issued by DLNR for lands within conservation districts.</li> <li>Investigates complaints and violations for lands within conservation districts.</li> </ul>                                                                                                                                                                                                                                                                                                                 |
| 12. Division of Conservation and Resource Enforcement | <ul style="list-style-type: none"> <li>Enforces laws and rules that apply to all lands managed under DLNR.</li> <li>With full police powers, investigates and enforces all state laws and rules and county ordinances within all state lands.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Entity                                   | Roles and Responsibilities                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13. Division of Forestry and Wildlife    | <ul style="list-style-type: none"> <li>• Manages and protects watersheds, natural resources, outdoor recreation and forest product resources.</li> <li>• Develops and manages statewide programs on forest and wildlife resources, natural area reserves, and trail and access systems.</li> <li>• Manages the Mauna Kea Ice Age Natural Area Reserve, Mauna Kea Forest Reserve, and outdoor recreation programs and activities that occur on state-owned lands on Mauna Kea.</li> </ul> |
| 14. Natural Area Reserves Commission     | <ul style="list-style-type: none"> <li>• Establishes policies and criteria for the management, protection, and permitted uses of lands within the Natural Area Reserves system.</li> </ul>                                                                                                                                                                                                                                                                                               |
| 15. Land Division                        | <ul style="list-style-type: none"> <li>• Manages state-owned lands.</li> <li>• Manages and enforces leases, permits, executive orders, and other encumbrances for public lands.</li> <li>• Maintains data for the State Land Information Management System.</li> <li>• Serves as custodian for all official transactions relating to public lands.</li> </ul>                                                                                                                            |
| 16. State Historic Preservation Division | <ul style="list-style-type: none"> <li>• Carries out responsibilities outlined in the National Historic Preservation Act.</li> <li>• Manages programs to promote the use and conservation of historic properties, including those on Mauna Kea.</li> <li>• Reviews proposed construction projects, leases, and permits to ensure minimal effects of change on historic and cultural assets.</li> </ul>                                                                                   |

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## Response of the Affected Agencies

### Comments on Agency Response

We transmitted a draft of this report to the Department of Land and Natural Resources (DLNR) and the University of Hawai‘i (UH) on July 21, 2014. A copy of the transmittal letter sent to the department is included as Attachment 1. The department did not submit a response. The university’s response, dated July 28, 2014 and received on July 31, 2014, is included as Attachment 2.

The university expressed its appreciation for our review of UH’s management efforts and accomplishments that have occurred over the past nine years, and agreed that it must complete the rulemaking process and seek Board of Regents approval for commercial fees.

The university expressed concern that we placed a heavy emphasis on the absence of rules, and it cited the existence of a number of protections to Mauna Kea’s resources provided by existing controls. The university said the issues surrounding Mauna Kea are complex and include overlapping jurisdictions, and asserted it is the combination of existing rules, regulations, and policies that helps protect the mountain’s resources. We concur that existing controls and enforcement measures help to protect resources and provide for the public’s health and safety atop Mauna Kea but we stand by our finding that administrative rules are a critical piece to the protection puzzle.

In response to our finding that UH relied on unauthorized permits to assess fees for commercial tour activities, UH said that in November 2006, the UH president authorized the UH–Hilo chancellor to issue temporary permits effective January 2007 and noted that Act 132, SLH 2009, requiring the UH Board of Regents (BOR) to set fees in a public meeting was not in effect until 2009. The university misses our point. In 2007, UH’s new permits with revised conditions should have been approved by the BOR, but were not. When those permits expired in 2009, the fee predicament could have been solved had UH established fees in an open BOR meeting.

The university disagreed that it lacks enforcement authority and contends its rangers are able to control public access. However, we maintain that UH and its rangers are limited in their ability to enforce public access controls contained in the Comprehensive Management Plan and Public Access Plan without rules to establish their legal enforcement authority.

Regarding our finding that delays in rulemaking may have been avoidable if UH and DLNR had held public meetings under the State’s

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sunshine law, UH agrees that public scrutiny protects the public’s interest but argued that “open meetings” are not one of the permitted ex parte communications listed under DLNR’s administrative rules and therefore such meetings could not have occurred without the contested case petitioner’s agreement. We concur the cited rule prohibits unauthorized ex parte communications. However, ex parte communications occur when two parties communicate without including the third party (generally, when a judge talks to one attorney without the other attorney present). Our point is that a meeting held under sunshine law—that is, one conducted under the auspices of Chapter 92, HRS—would likely not violate ex parte communications, as by definition it is open to the public and must be fully noticed in advance. Regardless of our interpretation, we found no evidence that UH had explored this as an option to move forward with rulemaking activities, nor that UH or DLNR proceeded with drafting independently whilst official communication was barred. The result is that the agencies have likely lost several years in the rulemaking process rather than coming together to work out the details of advanced drafts.

Finally, we made minor technical corrections for accuracy, clarity, and style prior to publication.

STATE OF HAWAII  
OFFICE OF THE AUDITOR

465 S. King Street, Room 500  
Honolulu, Hawaii 96813-2917



JAN K. YAMANE  
Acting State Auditor

(808) 587-0800  
FAX: (808) 587-0830

July 21, 2014

The Honorable William J. Aila, Jr.  
Chairperson  
Board of Land and Natural Resources  
Kalanimoku Building  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

**COPY**

Dear Mr. Aila:

Enclosed for your information are ten copies, numbered 6 to 15, of our confidential draft report, *Follow-up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve*. We ask that you telephone us by Wednesday, July 23, 2014, on whether or not you intend to comment on our recommendations. Please distribute the copies to the members of the board. If you wish your comments to be included in the report, please submit your hard copy response to our office no later than 4:30 p.m. Tuesday, July 29, 2014.

The University of Hawaii'i, University of Hawaii'i at Hilo, Office of Mauna Kea Management, Governor, and presiding officers of the two houses of the Legislature have also been provided copies of this confidential draft report.

Since this report is not in final form and changes may be made to it, access to the report should be restricted to those assisting you in preparing your response. Public release of the report will be made solely by our office and only after the report is published in its final form.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Jan K. Yamane'.

for Jan K. Yamane  
Acting State Auditor

Enclosures



UNIVERSITY  
of HAWAII®  
**HILO**

Office of the Chancellor

RECEIVED

2014 JUL 31 PM 12:18

July 28, 2014

OFFICE OF THE AUDITOR  
STATE OF HAWAII

Ms. Jan K. Yamane  
Acting State Auditor  
Office of the Auditor  
465 S. King Street, Room 500  
Honolulu, Hawaii 96813-2917

Dear Ms. Yamane:

On behalf of President David Lassner, I would like to express the University of Hawai'i's appreciation of the review made by your office of the Management of Mauna Kea and the Mauna Kea Science Reserve. It is opportunities such as this current audit that helps the University in carrying out its stewardship responsibilities by identifying areas requiring improvements. The University also commends the efforts by your staff in their review of the University's management efforts and accomplishments that occurred over the past nine years. As we stated in our response to the draft of the 2005 audit, the issues surrounding the management of Maunakea are complex including overlapping jurisdiction. It is no different today than it was in 2005.

The basis for any audit is the review of documented activities, compliance with policies, rules, statutes, etc. Audits are not designed to review the intangibles, such as the sociological aspects, nor do they address "gray areas." However, it is important to have background (gray areas) to give an accurate audit assessment. Management of Maunakea<sup>1</sup> is not simply carrying out rules, management plan actions, etc., in a vacuum, instead it is the process of implementation that that is key to the successful management of the mountain. The process for Maunakea is about doing the "right thing", not simply doing things right. Doing the right thing, involves going way beyond doing the minimum, it means taking the time to interact and getting input from the community, and it means considering all legal aspects of the process to assure compliance with all applicable laws, rules and regulations. The University's process, therefore, requires patience and a large consumption of time.

<sup>1</sup> The spelling of Maunakea is undergoing a transition. The historic use of Mauna Kea, such as it appears in historical documents will continue to be spelled as two separate words. Hawaiian linguists have determined that the use of Maunakea as a place name should be spelled as on one word.

For Maunakea management the community component is the focal point of the University's management policy, a policy that was the result of input from the Hawaii Island community. While this draft report is based on reviews of the documented portions of the University's management, including the Comprehensive Management Plan (CMP), sub-plans, reports, permits, etc. it is incomplete because it did not consider an evaluation of the community or legal aspects. Community involvement is a major part of the formula for success even though it is also a much slower process. Unless one is involved in the management of Maunakea it is not surprising that the community and legal aspects are often overlooked.

To ensure accuracy in the report the University offers the following comments to the draft report. Some are corrections of fact, others are points of clarification. The University's responses primarily address the two major areas cited in the report: lack of rules put the resources at risk and "unauthorized" commercial tour permits.

**Page 4, last paragraph.** Both the Mauna Kea Management Board and Kahu Kū Mauna are advisory bodies, not just Kahu Kū Mauna.

**Page 5, first paragraph.** The office is responsible for managing lands on Maunakea that are leased or under an easement to the University.

**Page 6, first paragraph.** The Office of Mauna Kea Management is responsible for day-to-day management of activities to protect the cultural, natural and scientific resources on UH's Maunakea lands. Please add the term "scientific" in the document wherever there is reference to protection of cultural and natural resources

Kahu Kū Mauna – members are comprised of individuals with ties to or cultural interest in the mountain. They are not necessarily cultural practitioners.

Institute for Astronomy (IfA) manages only two of 11 of the observatories. It does not oversee the conduct and coordination of astronomical research of non-UH facilities. IfA participates with the observatories on scientific projects, research, instrument building, and long-term astronomy related planning.

**Page 7, first paragraph.** The observatories do not pay into different accounts. They pay Mauna Kea Observatories Support Services which then deposits them into RCUH then allocates the payments into specific cost centers.

**Page 9, first paragraph.** The department (DLNR) did not exclude trails within the summit area in the lease.

**Page 10, last paragraph.** Monies deposited into the Mauna Kea Lands Management Special fund are not legislative appropriations, these are monies collected from rents and fees. Expenditures are subject to legislative appropriations.

**Page 15, first paragraph.** It is unfortunate that the report places a heavy emphasis on the absence of rules and alludes to rules as the only mechanism for protecting the resources, providing health and safety measures, and a means for enforcement. There are a number of protective controls and enforcement measures including the State Constitution, statutes, DLNR and Department of Business, Economic and Tourism (DBEDT) rules, regulations, CMP, and master lease between UH and DLNR that are in place to protect the resources. Five of the six levels of enforcement described in the Public Access plan are actively in place that to protect the resources.

It should be noted that administrative rules are only one of several management tools availability to the University to protect the resources and provide for health and safety measures. The adoption of rules brings together in one document the many controls that already exists in the CMP, HRS 6E (historic preservation), and rules governing historic preservation. The 1995 Management Plan as a standalone document was replaced by the CMP, but the controls of that plan governing public access and commercial activities were incorporated in the CMP and “continue to be in full force and effect.” Violations of Conservation District Rules, 6E, and rules pertaining to historic preservation, including cultural sites (historic properties) are enforced by DLNR’s Division of Conservation and Resources Enforcement. It is the combination of existing rules, regulations, policies that will significantly help to protect the resources, not just University rules alone.

**Page 15, first paragraph.** It is stated that “[w]hile the DLNR has ultimate authority over managing the science reserve, certain responsibilities regarding land use and activities are performed by UH.” The University, by Conservation District rules, does not “perform responsibilities” over land uses. The University can only proceed with land use requests with approval by the DLNR. Further, the University monitors compliance with the conservation district use permits for land uses on its leased parcels. Regarding activities, much of the lands the public accesses are outside the Science Reserve. These include the Natural Area Reserve, and Forest Reserve which includes the lands at Hale Pohaku. These lands are regulated by DLNR under their division’s respective rules.

**Page 15, second paragraph.** President McClain in November 2006 authorized the Chancellor of the University of Hawaii at Hilo to issue temporary permits effective January 2007. This follows the Board of Regents' acceptance, in 2005, the transfer of authority to regulate commercial activities on Mauna Kea by the Board of Land and Natural Resources (BLNR). This action as noted by the President, initiated the implementation of the BOR acceptance of the permitting authority from the BLNR. Act 132 authorizing the University to promulgate administrative rules and requiring the Board of Regents to set fees in a public meeting was not in effect until 2009.

The report states that issuance of unauthorized permits to regulate and assess fees for commercial tour activities put the resources and revenues at risk. It is because UH issued commercial tour permits that it is able to enforce permit conditions and set and assess fines for permit violations and non-compliance. Since the issuance of commercial permits, the University has and continues to assess fines for non-compliance. The University has 100 percent success in collecting its assessed fines. Further, the CMP which incorporated management actions from the 1995 plan contains a specific section on control of commercial activities, and as stated earlier these controls "remain in full force and effect."

The University does not lack enforcement authority. The University is successful in controlling public access utilizing enforcement mechanisms that are currently in place. These are described in the report. The most effective is the first and lowest level of enforcement – personal enforcement. In addition, through the CMP, the rangers are able to control public access, including recreational activities, alcohol use, snow days, vehicles, activities inimical to astronomy, and in particular enforcement for health and safety reasons, such as closing the road or areas deemed unsafe.

**Page 17, second to last paragraph.** Controls to manage activities described in this paragraph including access to sensitive resource areas, such as cultural sites and natural resource habitat areas, traffic and off-road vehicles, alcohol consumption, recreational and commercial tour activities are in full force and effect pursuant to the CMP.

**Page 18, second paragraph.** The office did not admit, it stated that its process includes a community engagement consultation in its development of the rules. As stated above the community involvement is a major part of the formula for success even though it is also a much slower process.

**Page 18, last paragraph.** The report suggests that UH could have conducted rule making through open meetings under the State's *sunshine* law while the contested case was in progress and not violated HAR §13-1-37's prohibition on ex parte communication. However, "open meetings" are not one of the permitted ex parte communications listed under HAR §13-1-37 and could not have occurred without the opposing party's agreement. Moreover, it was one of the contested case petitioners that explicitly complained that unpermitted ex parte communications based on DLNR working closely with UH on the development of rules. Taking extra precautions relating to legal procedures is a prime example of doing the right thing by considering all legal aspects of the process to assure compliance with all applicable laws, rules and regulations (see discussion above). The University agrees that public scrutiny protects the public's interest and, therefore, to assure the public and the petitioners that unpermitted ex parte communication was not being committed, the University suspended rule making until the conclusion of the contested case.

**Page 23, first paragraph.** The use of off-duty enforcement officers would be called in on snow days regardless of whether UH has rules or not simply because of the large number of who come to the mountain to shovel snow and snow play. Rangers have the authority to close and enforce the closure of the road. In Exhibit 2.5, it was not expected that upon opening the road after being closed due to snow and ice on the road, that people would stop alongside the road to shovel snow. In times of heavy visitation, rangers regulate the number of cars above Hale Pohaku.

**Page 23, last paragraph and page 24 4<sup>th</sup> paragraph.** The report discusses the various forms of enforcement currently available to UH. The University exercises five of the six forms of enforcements available. The absence of the sixth form, primary law enforcement authority, does not hinder the rangers' ability to enforce control over public activities. It would be helpful, but not critical if UH were to have enforcement officers. The primary enforcement tool is personal responsibility. It is, as the *Public Access Plan* states, the most effective enforcement tool. Rangers who encounter individuals engaged in inappropriate behavior note these individuals are apologetic and comply when asked. This situation would be no different if rules were in place.

The report fails to mention a key management control, the Maunakea Rangers. There are eight full time rangers with a minimum of two, but generally three, rangers on duty on any given day. Rangers are present 365-days a year from 7 am to 10 pm. Regardless of whether rules are or not in place rangers perform a valuable function in maintaining control of public and commercial activities to protect the resources.

**Page 24, second paragraph.** UH applies contractual controls over observatories and commercial tour operators. UH does not enter into contracts or permits for film companies. UH observes the film permitting function legislatively assigned to the Department of Business, Economic Development and Tourism.

**Page 24, third paragraph.** In anticipation of the adoption of rules, it is a requirement of the ranger position description that applicants have law enforcement and/or a fire-safety experience. Of the current eight rangers, four have many years of law enforcement experience and three have years of experience in fire and emergency medical treatment. Having individuals with law enforcement and/or safety experience decreases the capacity building mentioned in the report, as well as reducing costs.

**Page 24, last paragraph.** This paragraph identifies management actions that cannot be implemented until rules are developed. However, there are mechanisms in place that control most of the actions listed.

The following CMP actions were completed and approved by Kahu Kū Mauna in 2012:

1. CR-7, constructing new cultural features
2. CR-9, piling and stacking of rocks

These two CMP management items were originally designated for incorporation into administrative rules, but in subsequent discussions with the DLNR, these are considered land use activities and subject to Conservation District Rules not UH administrative rules.

The prohibition of off-road vehicles and controls regarding recreational hiking are governed and enforceable by CMP through the incorporation of 1995 management plan actions approved by the Board of Land and Natural Resources. As the CMP clearly states, the general controls of the 1995 management plan “shall continue in full force and effect as part of this CMP and are applicable to all visitors, whether members of the public or commercial tours.”

The University is not the landowner, but a lessee. The lease specifically states reserving unto the lessor (DLNR) are hunting and recreational rights. Hunting on UH's lands are regulated by DLNR. The University also coordinates and assists DLNR in its efforts to comply with a Federal mandate to eradicate feral sheep on Maunakea. The lease also limits hunting and recreational activities to daylight hours only.

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July 28, 2014  
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The State Film Office is responsible for administering and regulating film permits. The University complies with the conditions of the Film Office. However, before the Film Office issues film permits for UH managed lands, the permit requests are submitted to the University for approval. Before approving a film permit the requesting party is required to sign and acknowledge the University's conditions. Among the conditions are obtaining approval from all the affected observatories and prohibition of the use of lights after sunset and wireless transmission. These conditions ensure filming activities do not interfere with observatory operations. Other conditions include limiting filming from roads, trails or observatory property to avoid negative impacts to the mountain's resources. Finally, they are required to hire a ranger escort.

#### Summary

The University agrees it must move forward and complete the rule making process and seek Board of Regents approval for commercial fees. However, the University is concerned over the report relying heavily on the absence of rules as the prime factor for resources not being protected. It is critical to note that the resources are being protected and that the report overlooks the existence of controls that are in place to protect the cultural, natural and scientific resources. These include the Constitution, state law, DLNR and DBEDT rules, Master Lease between UH and DLNR and the Comprehensive Management Plan, and most importantly the presence of rangers. Collectively they provide protection for the resources on UH's managed lands on Maunakea. As mentioned earlier, the issues and circumstances surrounding Maunakea are complex including overlapping agency jurisdictions, but is the overlap that provides controls for protecting the resources. Rules, when they are approved, will help to codify many of the controls into one document and will be an added management tool for the University. Rules alone do not guaranteed that the risk to the resources will disappear.

We thank the Office of the Auditor for this opportunity to review the report and provide comments to assist your office to ensure an accurate report the Governor and State Legislature.

Sincerely,



Donald Straney  
Chancellor