

Kū Kia'i Mauna: Historical and Ongoing Resistance to Industrial Astronomy Development on Mauna Kea, Hawai'i

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*Introduction*

In the beginning, there was pō, the profound darkness necessary to the gestation of all life to come. After pō, the land was born – Hawai'i Island being the sacred hiapo (firstborn) of the islands. Next came light, along with the clouds and atmosphere. It was in this context, during the formation of elemental beings essential to life itself, that Mauna Kea was born — the child of Wākea, the sky himself, and Papa, the earth herself, who birthed the islands, both from whom all Hawaiians would descend. This genealogy is recorded in a birth chant written for Kauikeaouli (Kamehameha III), as well as in other well-known chants such as the Kumulipo and the Kumuhonua. The sacred landscape of Mauna Kea has been home to numerous trails, ahu (shrines), heiau (temples), cinder cone pu'u (hills), burials, and a center for Hawaiian navigational, astronomical and meteorological knowledge. In modern Hawai'i, the sacred summit remains a wao akua of Wākea and the piko (umbilical cord) of the island-child, Hawai'i, connecting the land to the heavens on the highest point in the Pacific.

Long before the first observatory was constructed on Mauna Kea, some of the first Western explorers to Hawai'i identified Mauna Kea summit areas on maps as “waste land.” But even longer before that, kānaka maoli (Hawaiians) have regarded Mauna Kea as sacred and revered as a wao akua, a place for gods and not for construction of edifices for human use.<sup>1</sup>

Mauna Kea's summit is ringed with ahu, demonstrating both its sacred nature of the pinnacle and that ascent to the summit was not to be accompanied by human construction. Hawaiians accessed the higher planes of Mauna Kea for religious practices, to bury 'iewe (afterbirth, placenta), to gather the sacred waters of Lake Waiau, to ceremonially inter the bones of a deceased loved one, to quarry for special adze, and to worship. In the following, we recount

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<sup>1</sup> In 1826, Joseph Goodrich, a missionary with a scientific bent, wrote of kanaka maoli approaches to Mauna Kea:

They have numerous fabulous tales relative to its being the abode of the gods, and none ever approach its summit, as, they say, some who have gone there have been turned to stone. We do not know that any have ever been frozen to death; but neither Mr. Goodrich, nor Dr. Blatchely and his companion, could persuade the natives, whom they engaged as guides up the sides of the mountain, to go near its summit.

*The Journal of James Macrae: Botanist at the Sandwich Isles 1825*, ed. Brian Richardson, (Lahaina, Maui: North Beach West Maui Benefit Fund, 2020) quoting Joseph Goodrich, "Notice of the Volcanic Character of the Island of Hawaii, and of various Facts connected with late Observations of the Christian Missionaries in that Country" *The American Journal of Science and Arts* (1826). Of note, Hawaiian cultural oral histories indicate that a platform, understood to be a “navigational heiau”, was present on the Mauna Kea summit “before the observatories were there[.]” (Maly 1999:A-349) *quoted in* University of Hawai'i Comprehensive Management Plan for Mauna Kea, at 5-15 (2009).

a contemporary history of the Kū Kia'i Mauna (guardians of the mountain) organizing for the protection of Mauna Kea. This history includes decades of community organizing, legal actions, and countless testimonies at public hearings - all beseeching the University and state Land Board to prevent construction of any kind on the mauna. The tenacity and volume of opposition to development on Mauna Kea is itself evidence of astronomy's impact.

### *Purpose of the white paper*

This paper will take you through a history of resistance to telescope development on Mauna Kea spanning 50 years through community engagement with public processes. Behind every court case, permit process, contested case, appeal or other action described here are real people up against big money and power. While the University of Hawai'i has spent millions of dollars on these legal and administrative processes, the kia'i have gotten by with community fundraising and serious personal sacrifices to protect a place, an ancestor, that is integral to their being. These sacrifices include, but are not limited to, impacts to employment (exhausting sick and vacation-time off, wage loss, job loss), impacts to health and wellness (physical, mental, emotional, social, spiritual), and time away and strain on family (juggling childcare, eldercare, domestic duties, housework). Since 2015, there have also been over 60 arrests made during non-violent direct actions to protect Mauna Kea. One must ask, why have so many people made such sacrifices for this mountain? What about our relationship to that place has moved so many to rearrange their lives to take a stand?

Perhaps some answers lie inside of the Hawaiian concept of *kuleana*. Often oversimplified to mean "responsibility," the concept of kuleana describes the authority, the privilege and, indeed, the responsibility to make decisions. Unlike other types of entitlement to authority and responsibility that may be based on a private property right or a job title, many descendants of Mauna Kea feel a deep personal mandate to protect this powerful elder. As with a human ancestor, understanding that one would not exist if not for one's progenitors, positions younger generations humbly and in service to the elements that create the conditions for life to exist. This deep truth presents an obligation that despite being met or not met, exists. What happens when one is not allowed to exercise or successfully uphold their kuleana? Feelings of failure and shame and disempowerment. As renowned Kumu Hula, Dr. Pualani Kanakaole Kanahele says in the 2005 Nā Maka o ka 'Āina documentary film Mauna Kea: Temple Under Siege, "... when we have to fly airplanes and we pass Mauna Kea we see all the buildings up on the mountain, that's real hilahila to us. And so in our shame we turn away, knowing that that is a hewa, that is not supposed to be there."

### *A history of protecting Mauna Kea from astronomy development*

In 1964, the Mauna Kea Access Road was constructed across lands belonging to the Department of Hawaiian Home Lands. Four years later, in 1968, the state gave the University of Hawai'i a lease covering over 13,000 acres of Mauna Kea conservation district lands for the "Mauna Kea Science Reserve" inclusive of "an observatory." In the 1970s, the Hawai'i island mayor - a kanaka maoli, Herbert Matayoshi - specifically opposed observatory development of

Mauna Kea because it would transform the space and end up restricting access for hunters.<sup>2</sup> His office wrote, “We strongly urge that the number of telescopes be limited to the number presently on the top of Mauna Kea.” At the time, only two 0.6 meter telescopes, constructed by the U.S. Air Force and Lowell Observatory, and the 3.6 meter Canada France Hawaii Telescope (CFHT) had been constructed.

Over the next 20 years, developers built a number of telescope complexes without permits from the state Land Board. Over public protest, the Land Board continued to issue “after the fact” permits for unauthorized observatory development. In 1995, Mauna Kea protectors went to the summit to investigate windblown construction debris from the observatories that were entering the Ice Age Natural Area Reserve and impinging on ahu that ring the summit. Nelson Ho of the Sierra Club contacted the University and the then-Institute for Astronomy (IfA) Director, Don Hall, went with Ho and others to the summit. They saw 55-gallon drums blown into gullies, lots of construction debris, and some trash left by tourists close to the summit. Hall said the University would get it cleaned up. Four months later, the trash was still there. Ho hiked around the summit collecting debris with the names of telescope facilities on it. The Hawai‘i Tribune Herald ran a front page story on the issue.

In 1998, the State Auditor slammed the University’s mismanagement of Mauna Kea<sup>3</sup>, with a whole section plainly titled “Historic Preservation Neglected”. Page 17 explained that the University was more concerned about building prestige for its astronomy program than they were about protecting the natural and cultural resources of Mauna Kea or even securing benefit for the broader community of Hawai‘i. The State general fund has been deprived of the fair-market rent for the use of Mauna Kea for over 50 years, which does not begin to consider the cost of irreparable damage to sacred Hawaiian crown lands.

The university was granted lands to meet its research needs, but it did not fulfill its obligations as a responsible leaseholder of conservation lands. Over the years, more than \$600 million was spent to construct the 13 telescopes and the antenna on Mauna Kea. Another \$50 million per year is spent by agencies involved in the operation of telescopes. A small percentage of these substantial amounts could reasonably have been used for environmental protection and to provide basic services to the public. However, this is not the case. The university claims that it lacks the funds and the positions to implement the protection controls outlined in its management plans. We found that this is largely the university's own fault. It took active steps to ensure that the development benefits would not be lost to other needs.

The university was more concerned about the benefits to its research program than about monetary consideration for the state. The university granted land use agreements to operators in exchange for viewing time on the instrument and a one-time contribution. All subleases to operators were gratis or for a token \$1.00.

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<sup>2</sup> Letter from John Keppeler, Managing Director, Office of the Mayor Herbert T. Matayoshi, Hawai‘i County, to Christopher Cobb, Chairman, Board of Land and Natural Resources (Sep. 16, 1976) (on file with the Office of Hawaiian Affairs).

<sup>3</sup> State Auditor, Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve, Report No. 98-6 (1998).

Also in 1998, the University of Hawai‘i held public hearings on its Master Plan for the Mauna Kea Science Reserve. Mauna Kea Anaina Hou president and longtime Mauna Kea protector, Kealoha Pisciotto, testified in part:

I am opposed to any further development atop Mauna Kea. In 1983, the Advisory Committee, just like this committee was formed to create the Mauna Kea Complex Development Plan, or the Master Plan. It was this committee that established the policies and regulations not only that governed development of astronomy, but also were meant to protect the resources and interests of the public and the native Hawaiians because of Mauna Kea's ceded lands. One of those regulations or laws was the limit set on the number of telescopes allowed at the top of Mauna Kea by the year 2000. That number was 13. Today however, there are over 25 telescopes, observatories, antennas, mirrors or light collecting surfaces that have been built or are under construction. Not even including the foundations or the pads or support buildings of the interferometers. If we include those, that number would be over 50.<sup>4</sup>

In 2000, the University of Hawai‘i developed a Master Plan for the Mauna Kea Science Reserve, allowing for at least 40 new telescopes and support structures. There was great outcry and one of the University’s regents, Nainoa Thompson, a kanaka maoli known especially for reviving Polynesian Voyaging traditions, refused to vote to approve the 2000 Master Plan for Mauna Kea, which would have allowed another 40 new astronomy structures on the mauna.

In 2001, a coalition of six petitioners, including Hawaiian cultural practitioners, the Royal Order of Kamehameha, Mauna Kea Anaina Hou, and the Sierra Club challenged the conservation district use permit (CDUP) for a proposed addition of eight outriggers to the two existing NASA Keck observatories. The Land Board held lengthy administrative contested case proceedings.

In 2003, Mauna Kea protectors went to the U.S. District Court to challenge the environmental assessment for NASA’s Keck Outrigger Project. Judge Susan Oki Mollway held the environmental assessment was inadequate for its failure to adequately address cumulative impacts of astronomy development exacerbated by the Keck Outrigger Telescope project.

In May 2004, the state Department of Land and Natural Resources levied fines on the observatories for nine violations of the permits allowing them to use Mauna Kea’s conservation district lands. The inspection that resulted in the discovery of said violations occurred only as part of the contested case proceedings initiated by Mauna Kea protectors concerning the Keck Outrigger project. Noting this, the state auditor wrote: “The university also does not appear to systematically monitor its tenant observatories for compliance with conservation district use permit requirements and was recently fined \$20,000 for violations in May 2004.”<sup>5</sup> The University, and not the observatories, paid the \$20,000 fines in October 2004 “but did not request reimbursement from the offending observatories.”<sup>6</sup> Also in 2004, and over community opposition in contested case proceedings, the Land Board issued a permit allowing construction of the Keck Outriggers. The permit was issued despite the absence of a “comprehensive

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<sup>4</sup> University of Hawai‘i, Master Plan for the Mauna Kea Science Reserve FEIS V.II, Appx. C, at C-4 (Dec. 1999).

<sup>5</sup> State Auditor, Follow-up Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve, Report No. 05-13 (Dec. 2005).

<sup>6</sup> *Id.* at 23.

management plan,” which is required under conservation district rules. Mauna Kea protectors appealed that decision to the Third Circuit court.

In 2005, the court-ordered NASA Keck Outrigger environmental impact statement (EIS) was published. The EIS concluded that the cumulative impact of 30 years of astronomy activity has caused “significant, substantial and adverse” harm. Mauna Kea protectors will later point to this fought-for finding in attempts by the Land Board to issue subsequent conservation district use permits, which cannot be issued for projects, like the Thirty-Meter Telescope, that will cause substantial adverse impacts.

In 2006, the Third Circuit agreed with the Mauna Kea protectors that a comprehensive management plan is required before any further astronomy development on Mauna Kea could occur and reversed the Land Board’s grant of a CDUP for the Keck Outrigger Telescopes Project. The UH-Institute for Astronomy appealed Judge Hara’s decision. But NASA withdrew funding for the Keck Outrigger Telescopes project, making moot that appeal and the project.

In 2007, the University of Hawai‘i began compiling a “Comprehensive Management Plan” for Mauna Kea, which specifically identifies the Thirty-Meter Telescope (TMT) as outside the scope of the plan. Hundreds of people came out to oppose the University’s plans to continue to expand astronomy development on Mauna Kea.

As part of the 2008 public hearing process, a Mauna Kea protector, Hoku Cody -- who would later also answer calls to protect Mauna Kea in 2019 -- testified against the University’s comprehensive management plan for Mauna Kea. Cody called attention to the ways that industrial astronomy development was displacing Hawaiian sciences and implored implementation of an ethic of celestial navigation that contributed to all of society.

I do believe that we [(kanaka maoli)] were scientists before Western scientists came along. That comes from a deeper place, though. A Hawaiian scientist means I was given the eyes and the ears and the voice in which to make these conclusions. . . Auntie [Rice] over there had mentioned celestial navigation as a means that Hawaiians were scientists, and I truly, absolutely agree with her. The one thing, I do believe that celestial navigation actually contributed to the entire society. Celestial navigation was used to find a better living, a better place to live for the overall betterment of people, regardless of where they came from or what they did. And I believe that if you know, we continue to use the Hawaiian culture up there and to be coexistent, we must also realize that all that knowledge that we gain from up there, whether it’s through a telescope or through our own na‘au and through our own conclusions, it must also benefit everybody down below Mauna Kea, who don’t use the mountain for the telescopes or to make their conclusions, but instead uses the water that comes from it. I myself grew up swimming in Keaukaha, which you know, brackish water. Half of it is made up of Mauna Kea. So my life is built up in that vibe. And I plan to share that.<sup>7</sup>

In 2009, the Land Board approved the University’s Comprehensive Management Plan, a development plan and a promise to develop further sub-plans for public access, cultural resource management, decommissioning, and other issues. Mauna Kea protectors demanded a contested case but were denied. Because of this, Mauna Kea protectors headed to court again but

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<sup>7</sup> Mauna Kea Comprehensive Management Plan Community Meeting. Tuesday May 13, 2008. Hilo High School Cafeteria, Hilo Hawai‘i 5pm, at 41-43.

ultimately the state Intermediate Court of Appeals determined that the University's Comprehensive Management Plan was just a plan to do something and not actually "an action."

That same year there was widespread opposition to the legislative proposal to grant the University authority to adopt rules for Mauna Kea lands. Kanaka Maoli Scholars Against Desecration, Mauna Kea Anaina Hou, the Royal Order of Kamehameha, KAHEA: The Hawaiian-Environmental Alliance, Ka Lāhui Hawai'i, Sierra Club, Life of the Land, the Temple of Lono, and thousands of individuals opposed granting the University of Hawai'i this rulemaking authority.<sup>8</sup> The Hawai'i nonprofit organization KAHEA, testified, cautioning that the University promises to use this authority to limit public access, regulate when and how Hawaiians worship, and expand observatory presence, while at the same time severely limiting public oversight of decisions made about the summit. A vision that unfortunately came to pass a decade later -- on November 6th, 2019 the UH Board of Regents passed management rules that will close access to the mountain at sunset making it difficult for cultural practitioners to continue celestial observations. The punishment for violating these rules are fines that escalate with each infraction and can also result in immediate expulsion from the mountain. The Board of Regents heard, but perhaps did not listen, to many hours of testimony that largely opposed the management rules and then passed them anyway -- dealing a disempowering blow to the *kia'i mauna*.

In 2010, the TMT environmental impact statement was published, including over five hundred pages of comments and responses, mostly in opposition to the project. Also in 2010, the University applied for a conservation district use permit for the TMT project. Mauna Kea protectors sought a contested case hearing on the decision.

In 2011, after hours of community testimony in opposition to the TMT project, the Land Board voted to approve the TMT conservation district use permit on the condition that it also prevails in a contested case proceeding to which it admitted six longtime Mauna Kea protectors as petitioners: Mauna Kea Anaina Hou, Deborah Ward, Kūkauakahi Ching, Paul Neves, the Flores-Case 'Ohana, and KAHEA.

In 2013, the Land Board denied the six petitioners' challenge to the TMT permit and the petitioners appealed to the courts. Also that year, kanaka maoli artists painted a mural for Mauna Kea at the University of Hawai'i at Mānoa campus with language calling out the University's claim to be a "Hawaiian place of learning" while bulldozing sacred sites. The University newspaper Ka Leo, which hosted the mural event, painted over this language. After pressure by kanaka student group hauMANA, Ka Leo apologized for singling out the mural and for unevenly applying their policies. That same year, the Associated Students of the University of Hawai'i, the undergraduate student governing body representing the 14,000 undergraduate students at the University, voted to pass a resolution in opposition to the University's proposal to seek a new general lease for Mauna Kea.

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<sup>8</sup> Testimonies are available at:

[https://www.capitol.hawaii.gov/session2009/testimony/HB1174\\_HD1\\_TESTIMONY\\_JUD\\_02-13-09\\_.pdf](https://www.capitol.hawaii.gov/session2009/testimony/HB1174_HD1_TESTIMONY_JUD_02-13-09_.pdf)

[https://www.capitol.hawaii.gov/session2009/testimony/HB1174\\_HD1\\_TESTIMONY\\_JUD\\_02-13-09\\_LATE\\_.pdf](https://www.capitol.hawaii.gov/session2009/testimony/HB1174_HD1_TESTIMONY_JUD_02-13-09_LATE_.pdf)

[https://www.capitol.hawaii.gov/session2009/testimony/HB1174\\_HD2\\_TESTIMONY\\_FIN\\_03-03-09\\_1\\_.pdf](https://www.capitol.hawaii.gov/session2009/testimony/HB1174_HD2_TESTIMONY_FIN_03-03-09_1_.pdf)

[https://www.capitol.hawaii.gov/session2009/testimony/HB1174\\_HD3\\_TESTIMONY\\_HRE-WTL\\_03-23-09\\_LATE.pdf](https://www.capitol.hawaii.gov/session2009/testimony/HB1174_HD3_TESTIMONY_HRE-WTL_03-23-09_LATE.pdf)

In 2014, the Land Board considered granting a sublease to the TMT. Hundreds submitted testimonies against the sublease and the Office of Hawaiian Affairs and Hawaiian cultural practitioners, including E. Kalani Flores, sought contested cases on the issue. They were denied and sought relief in the courts. On October 7, 2014, Mauna Kea protectors disrupted an attempted TMT groundbreaking ceremony. One of them, Lanakila Mangauil, would go on to become one of the new leaders in the Kū Kia‘i Mauna movement.

On January 21, 2015, the opening day of the State Legislature that year, Mauna Kea protectors visited Hawai‘i’s Governor David Ige’s office and delivered a letter asking for his help in protecting Mauna Kea. On April 2, 2015, hundreds of Mauna Kea protectors, kia‘i mauna, blocked roads accessing the proposed TMT site. Thousands more showed their support for the protection of Mauna Kea. At least 31 were arrested for various offenses related to obstructing the road. The Governor called for a “timeout” on TMT construction citing pending legal appeals.

On April 20, 2015, kia‘i mauna deliver a petition with over 53,000 signatures to Governor Ige.

On June 24, 2015, approximately 750 kia‘i mauna stand against TMT construction crews. Twelve were arrested.

On July 10, 2015, the Land Board held a public hearing on its “emergency” rules for Mauna Kea. The community delivered eight hours of testimony, nearly all in opposition, but the rules passed. Fifteen kia‘i mauna were arrested under these rules, some while they were in prayerful ceremony.

On August 9, 2015, over 10,000 people joined in the Aloha ‘Āina Unity March through Waikīkī. The ongoing struggle to protect Mauna Kea was undoubtedly the catalyst for the march which brought together a mass of people who share the value of aloha ‘āina -- aloha or love and respect for ‘āina, commonly defined as land, or more broadly, ‘that which feeds,’ which includes wao akua like Mauna Kea. This value expresses itself across many different social justice issues in Hawai‘i that were represented that day.

In October 2015, kia‘i mauna challenged the aforementioned emergency rules in court and won a ruling that vacated the rules. These rules determined to be unlawful were not dissimilar to the management rules that would eventually be passed in 2019, both restricting access to the mountain at sunset.

On November 17, 2015, kia‘i mauna petitioned the State Supreme Court (and was granted on the same day) an emergency stay pending the appeal of the BLNR decision to uphold the TMT conservation district use permit. A few weeks later on December 7, 2015, the Supreme Court vacated the TMT conservation district use permit on procedural grounds, saying that the BLNR erred in issuing the permit before conducting the contested case hearing. This meant that the contested case must be done over.

In April 2016, the second contested case hearing on the TMT began. Twenty-three parties, twenty of which were opposed to the TMT, participated in a five month hearing involving dozens of witnesses. It was during this second contested case that Narissa Spies, a PhD candidate at UH Mānoa, was called as a witness to talk about her decision to decline a scholarship that the TMT has offered as mitigation for irreversible damage to a sacred space and conservation zone. Her written direct testimony<sup>9</sup>, as well as a 2015 article published in Civil Beat<sup>10</sup>, details how her decision to refuse the money (that she describes felt like an attempted

<sup>9</sup> <https://dlnr.hawaii.gov/mk/files/2017/01/B.52a-Narissa-P.-Spies-WDT.pdf>

<sup>10</sup> <https://www.civilbeat.org/connections/why-i-declined-the-tmt-think-scholarship/>

“payoff”) resulted in personal turmoil including loss of personal friendships, financial pressure and dread over what backlash she would face over e-mail and in person. Spies’ experience typifies that of other ethnic minorities in STEM fields as explored in a 2016 Medium STEM and Culture Chronicle article<sup>11</sup> that includes stories of other scientists of color who have taken similar stands. Dr. Chaunda Prescod-Weinstein, a theoretical physicist of Black Caribbean descent was also featured in the article, saying “No telescope or science is more important than people.” What then, is the impact of the thirteen observatory complexes already built that the state deemed more important than people who love Mauna Kea as an ancestor and akua?

In 2017, the Land Board again approved the TMT permit, and again, the *kia’i mauna* went to court. This time, the Supreme Court upheld the permit in an October 2018 decision that set a dangerous precedent that the lone dissenting justice, Mike Wilson, called the “degradation principle”. In his powerful dissenting opinion, Justice Wilson wrote, “... one of the most sacred resources of the Hawaiian culture loses its protection because it has previously undergone substantial adverse impact from prior development of telescopes.”<sup>12</sup> This ruling incentivizes negative impacts on a resource because it will allow a permit applicant to later point to such damage as justification to steamroll ahead with more destruction. The potential impacts of the degradation principle threaten Hawaii’s environments and sacred sites.

On July 14, 2019, hundreds gathered at the base of the Mauna Kea Access Road at Pu‘uhuluhulu, which was made into a *pu‘uhonua* (sanctuary space). On that day, ‘*aha* (ceremony) was held on the hour to lift our voices and bodies in prayer through chant and dance. Since that day, ‘*aha* are held three times a day (morning, noon, and evening) on the Mauna Kea Access to strengthen the *kia’i* commitment to protecting Mauna Kea and our relationship to the mauna and its akua (elemental deities). *Kia’i* stand in solidarity with Mauna Kea, holding ‘*aha* on University of Hawai‘i Maui College. A student group, *Kia’i Ke Kahaukani* has been occupying an administrative building at UH Mānoa for over 2 months and conduct ‘*aha* three-times a day as part of their stand.

On July 15, 2019, the Hawai‘i Department of Transportation closed the Mauna Kea Access Road in order to facilitate the movement of heavy machinery up the mountain to begin construction on the TMT observatory. Hundreds of *kia’i* answered the call, including *kūpuna* (elders) who refused to move from the road, risking arrest. Eight people chained themselves to a cattle guard for eleven hours to block the heavy machinery from accessing the summit. No arrests were made that day.

Two days later, on July 17, 2019, the Department of Land and Natural Resources Division of Conservation and Resources Enforcement (DOCARE) officers arrested 33 *kūpuna* and 5 *kāko‘o* (*kūpuna* caregivers) for Obstructing Government Operations, a misdemeanor offense. Later that day, Governor Ige signed an emergency proclamation, allowing additional state assets to support actions at Mauna Kea, expanding the authority of law enforcement to control and manage areas on Mauna Kea. At the time of this paper’s submission, DOCARE officers remain on the Mauna Kea Access Road and block *kānaka maoli* cultural practitioners and hunters from accessing the mauna - allowing only one car per day to pass their blockade - while at the same time allowing University and telescope employees unrestricted access to our

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<sup>11</sup> Chiara Valentini Cabiglio and Narrissa Spies, “TMT on Mauna Kea: Where Science, Culture, and Community Collide” (Jan. 28, 2016) *available at*: <https://medium.com/stem-and-culture-chronicle/tmt-on-mauna-kea-where-science-culture-community-collide-e6ad2d13686d>

<sup>12</sup> <https://www.courts.state.hi.us/wp-content/uploads/2018/11/SCOT-17-0000777disam.pdf>



sacred summit. Local news outlets have reported that over \$11 million has been spent by law enforcement on this issue since the July stand-off.

The kia'i mauna at the Pu'uhonua o Pu'uhuluhulu have developed a fully formed community, united in resistance and celebration of the awesome place that Mauna Kea remains. The Pu'uhuluhulu camp includes an organized medic crew, a kitchen capable of feeding thousands of people a day, crossing guards, safety patrol, a media apparatus that interfaces with kia'i around the world through various social media and a webpage, childcare, art-making, "Kanaka Costco" to outfit kia'i with cold weather gear and cots, as well as the Pu'uhuluhulu University, which runs dozens of classes a week. Kūpuna leaders gather across from Pu'uhuluhulu on the Mauna Kea Access Road and watch over cultural protocols conducted three times a day. For more than four months, the kia'i mauna have remained steadfast in their commitment to watch over and protect Mauna Kea.

On October 24, 2019, Kuulei Higashi Kanahale and Ahiena Kanahale brought a petition before the Land Use Commission (LUC) for a declaratory order concerning the improper use of state conservation district lands located on Mauna Kea. The petition stated that through successive issuance of conservation district use permits, the Land Board has transformed the conservation district into a de facto industrial use district. After two days of testimony, the majority of which were in support of the petition, the land commission voted to deny the petition 5-2. The LUC chair, Jonathan Likeke Scheuer, stated in his closing remarks: "You know, are we, all of us, [kanaka] maoli, haole, are we brave enough, are we creative enough to see our way through the current standoff and find a Hawai'i that is far better than we can even dare to imagine now? ... I think we have a clear picture that if [the University of Hawai'i] had followed the proper process, this [LUC boundary amendment] process, we would not be in the dilemma we are now ... The summit no longer looks like a conservation district even if individually, clearly, individual telescopes are allowed to exist in a conservation district."

Today, over 300,000 people have signed petitions in opposition to TMT construction on Mauna Kea.

### *On the perils of compromise:*

Some have viewed the awesome response to calls to protect Mauna Kea and asked whether a compromise cannot be reached. Compromise, however, is how we got to this point in the first place.

One, two, three, then thirteen telescopes were constructed on Mauna Kea's highest summit, Kūkahau'ula, which the University of Hawai'i took to calling the "Astronomy Precinct." These actions – the construction and the naming of these lands – sought to naturalize astronomy as the purpose of Mauna Kea's summit. The state Board of Land and Natural Resources (BLNR) acquiesced with the University's management efforts. DLNR conservation district rules recognize "astronomy facilities" as a permissible use of a certain classification of the conservation district, called "Resource Subzone" lands.

Construction on conservation district lands, even of astronomy facilities, must meet eight criteria, one of which prohibits projects that cause substantial adverse impacts. All authoritative documents agree that the existing twelve observatories under University management have caused substantial adverse impacts. This is true for Mauna Kea and Haleakalā summits. The University has argued, essentially, because these summits are already messed up – an "increment" more would not be substantial. Because Mauna Kea (and Haleakalā) has already

been compromised, new observatory construction would cause only a “slight increase” of bad impacts. According to this logic, the more the University messes up these summits, the lower the bar is for new construction.

This logic misapplies “balancing” to the problem of a resource, for instance, that had been already been 90 percent depleted. A “balance” between developer and conservation uses of the last ten percent would not only leave the developer with 95% of the resource. It would leave us with a rule that permits future balances between the remaining 5%, 2.5%, and so on. Compromise cannot be the rule.

We are certain that those calling for compromise would not endorse the University’s magical math logic about bad impacts and increments. Our point is that we cannot look only at the construction of the Thirty-Meter Telescope as an isolated problem to be remedied by making both “sides” happy. Many scholars, including Harvard physics professors, are now asking for examination of the real costs of continued development of Mauna Kea, not only for the *kia’i mauna*, but also for the integrity of astronomy research programs.<sup>13</sup> The questions being raised by Mauna Kea protectors are about whose futures, ways of knowing, and histories will be made to thrive in Hawai’i. And it seems the TMT project is going to be made to provide answers to them.

### *Recommendations*

Astronomy development impacted the ability of other kinds of sciences to develop in the unique tropical alpine climate of Mauna Kea, including traditional Hawaiian astronomy and astrology practices that utilize alignments of stars and landmarks. The observatories obstruct these alignments. Construction of the observatories destroyed fragile habitats for rare, native species that are found nowhere else in the world and archaeological landscapes, which encompass the orientation of multiple historic sites and not individual discrete properties.

Opposition to development on Mauna Kea has only amplified since the first telescope was erected in the 1970s. To reduce and avoid astronomy’s impacts, we recommend: (1) revoking any funding for the TMT conditioned on its location on Mauna Kea; (2) assisting the TMT International Observatory Corporation with plans to re-site the TMT and/ or re-evaluate the need for the project; and, (3) initiation of decommissioning for all telescopes on Mauna Kea as soon as possible and in consultation with community groups.

Kānaka maoli kūpuna and leaders demonstrate time and time again that Hawaiian science is equal, if not greater, than Western science. Kānaka maoli, for centuries, have used indigenous astronomy, hydrology, volcanology, geography, oceanography, etc. to live sustainably in our islands. Why does the University of Hawai’i, who is tasked by its president, David Lassner, to make the university a leader in indigenous education, systematically ignore *kanaka maoli* and continue to value the TMT and western science over indigenous Hawaiian science and values?

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<sup>13</sup> John Edward Huth, Professor of Physics, Harvard University, “The Thirty Meter Telescope Can Show Us the Universe. But at What Cost?” New York Times (online) (Nov. 6, 2019) available at: <https://www.nytimes.com/2019/11/06/opinion/mauna-kea-telescope.html>