



The Society for Conservation Biology opposes the construction of the Thirty Meter Telescope (TMT) on Mauna Kea (Mauna a Wākea), Hawai'i.

We write on behalf of the Society for Conservation Biology, a global community of conservation professionals dedicated to advancing the science and practice of conserving the world's biodiversity and ecosystems, to state our opposition to the planning and approval process, and potential construction of the Thirty Meter Telescope (TMT) International Observatory on Mauna Kea (Mauna a Wākea), Hawai'i.

If built, TMT would cause deleterious and irreversible impacts to the unique and highly threatened socio-ecological alpine landscape within the Mauna Kea Science Reserve (MKSR)¹ - the proposed site for TMT construction. The TMT Corporation, as well as the State of Hawai'i Board of Land and Natural Resources, and Department of Land and Natural Resources, have all concluded in an environmental impact assessment that the TMT would exert "**substantial, significant, and adverse**" impacts on Mauna Kea's ecological and cultural resources. Indeed, TMT would likely "[displace] existing species and habitat" and would disrupt the site's geology².

Mauna Kea is a rare, globally significant, and uniquely threatened habitat. At 4,200 m in elevation, Mauna Kea is taller than both Mt. Hood (Wy'east to the Multnomah tribe) and Grand Teton (Rock Standing or Elder Brother to the Shoshone). Warm, moist air rising from the tropical Pacific Ocean condenses and falls as rain or snow at the summit. Mauna Kea can be translated to "white mountain" in reference to this seasonal snow, which is increasingly uncommon due to climate change³. However, there are many names for the mountain, one of which is Mauna a Wākea, as the mountain is connected to the sky father deity of Hawai'i, meaning that Mauna Kea is the place that connects Kānaka Maoli (Native Hawaiians) from their lands to their cosmic origins⁴.

The summit of Mauna Kea (where the MKSR is located) supports a fragile aeolian ecosystem (i.e., shaped by wind patterns), characterized by specialized primary producers (including mosses, algae, and lichens) and an unusual community of arthropod predators and scavengers. Resident plant species include the endangered Mauna Kea silversword (*Argyroxiphium sandwicense*) and Douglas' bladderfern (*Cystopteris douglasii*), listed as a species of concern by the U.S. Fish and Wildlife Service. There are at least 12 arthropod species endemic to the summit, including omnivorous, day-flying *Agrotis* moths, *Lycosa* wolf spiders, a *Lithobius* centipede, and the unique, flightless wēkiu bug (*Nysius wekiuicola*). The wēkiu bug is a candidate for federal listing as an endangered species⁵. Further degradation of summit ecosystems--already impacted by existing development² and climate change--cannot be mitigated: ***These endemic species of Mauna Kea have no alternative habitat.***

¹ MKSR is land held in trust by the State of Hawai'i and managed by the Hawai'i Department of Land and Natural Resources (BLNR), parts are subleased to the University of Hawai'i (UH; to 2033). <https://bit.ly/2rhndVz>

² TMT Corporation Environmental Impact Assessment. 2010.

http://www.malamamaunakea.org/uploads/management/plans/TMT_FEIS_vol1.pdf

³ Zhang et al. 2017. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016EF000478>

⁴ http://www.mauna-a-wakea.info/maunakea/F2_whitemountain.html

⁵ Richardson. 2002. <https://www.fws.gov/ENDANGERED/bulletin/2002/03-06/22-23.pdf>

The potential construction of TMT on Mauna Kea would follow decades of development that has already caused negative socio-ecological impacts, including 1) significant environmental damage, 2) broken promises to remove decommissioned observatories and carry out remediation of those sites, and 3) exclusion of Kānaka Maoli in the decision making and ongoing management of Mauna Kea. These actions have, and will continue to, inhibit the use and continuation of traditional ecological knowledge, including astronomical science practices, and traditional stewardship and conservation of Mauna Kea⁶.

The SCB recognizes the important and critical leadership role of Indigenous communities in global biodiversity conservation. Recent developments in conservation social science include the emerging field of conservation justice⁷. **Research confirms that conservation interventions that are co-created with local communities under a justice and equity framework experience more successful, enduring ecological outcomes and resilient, grassroots community support**^{8,9}. However, for more than 50 years, Kānaka Maoli have been excluded from decisions regarding the ongoing management of their ancestral and sacred Mauna. The exclusion of Kānaka Maoli threatens the sustainable management of this incredibly unique ecosystem and marginalizes their intergenerational role as ecological stewards and caretakers of their traditional practices, burial sites, shrines, and heritage sites. Effective conservation efforts must include and respect Indigenous People's relationalities to land, water, and resources. Scientific advancement should not take primacy to Indigenous rights and ways of knowing; rather, western science stands to benefit from Indigenous science.

Conserving the ecological and culturally irreplaceable ecosystems in the MKSR is incompatible with development on the summit of Mauna Kea. We acknowledge the investment that many colleagues in the astronomy community have made toward the project and the scientific knowledge that may be gained from it. We write not to judge the scientific value of TMT, but to establish that because of its adverse ecological and cultural impacts as well as the exclusionary process by which it is being planned and approved, the construction of TMT as planned is misaligned with the principles of sustainable and inclusive scientific practices.

We, the Society for Conservation Biology:

- 1) **Oppose the construction of the TMT** and any further development on the summit of Mauna Kea, without the due and inclusive co-development of this and all other infrastructure plans with the Kānaka Maoli, to avoid further adverse impacts on the fragile ecosystems and vulnerable species unique to the summit of Mauna Kea, and;
- 2) **Support the Kānaka Maoli in their occupation of their unceded lands** with the aim of restoring traditional stewardship of Mauna Kea, and;
- 3) **Urge pono (righteous) scientific development efforts of any kind on Indigenous lands to employ an inclusive process** that includes all stakeholders, respects the past and present irreplaceable ecological and cultural value of natural resources, and integrates the role of Indigenous Peoples as stewards of their lands.

⁶ <https://www.commondreams.org/views/2019/08/27/protectors-mauna-kea-are-fighting-colonialism-not-science>

⁷ Martin, et al.. (2016). <https://www.sciencedirect.com/science/article/pii/S0006320716301045>