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Geography
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Lē'ahi

Diamond head is a very important geological site on the island of Oahu with many important historical and cultural ties with the peoples of Hawaii. It sits as a 300,000 year old volcanic cone that has long been active in the rich culture and iconography of not just Oahu but all of Hawaii. Standing close to Waikiki and Honolulu, Diamond Head stands massive at 762 feet above sea level. The Hawaiian name for the state monument is Lē'ahi and is believed by geologists to have been formed 300,000 years ago as the result of a single and brief volcanic eruption. The crater itself covers 350 acres with a width greater than its height. It is beloved that the southwestern brim of Lē'ahi is higher due to winds blowing ash in this very direction during the aforementioned eruption.

As mentioned before, Diamond Head is what is classified as a volcanic cone. A volcanic cone is a triangular shaped hill that is formed due to material from an eruption piling around the volcanic vent or opening in the Earth's crust. In particular Diamond Head is classified as a Tuff Cone, which is formed by an interaction between magma and bodies of water. The distance from the floor of Lē'ahi to its peak is 560 feet. Since the initial eruption all those many years ago, Diamond Head's slopes have been eroded and weathered by the forces of rain, wind, and the sea. At the seaward slopes of the crater is a coral reef that protects Lē'ahi. Given that Diamond Head has a semi-arid climate, steep rocky slopes and shallow soil, the monument supports mostly low shrubs and herbs. Some Botanists believe that the crater itself was once covered by dryland forest long ago with a handful of few native Hawaiian species such as *'ilima* remaining. Interestingly enough, rainwater collects at the floor of the crater in turn creating a small lake that was once frequently visited by ducks and birds until the early twentieth century. Many plants and animals that can be seen in the crater today are there as a result of being introduced to Hawaii after the 19th century.

Some important plants that are found on Diamond Head include the *kiawe* and the *koa haole*, both of these plants were brought to grow on Diamond Head as cattle feed but have adapted nicely to the hot and dry conditions of Lē'ahi. Some species of birds have been introduced to Diamond Head as well such as cardinals, doves, and sparrows. As mentioned above earlier, Diamond Head is not the monument's original name. In early Hawaiian history it is said that the goddess of fire *Pele's* sister *Hi'iaka* gave Lē'ahi its name. The name Lē'ahi is a fitting one for Diamond Head because the summit of the volcano cone resembles the forehead or *lae* of the *'ahi* fish. This term translates to the "brow of the tuna" as it refers to the ridgeline of the crater which looks much like the dorsal fin of a fish. There is another translation "fire headland" that refers to the navigational fires that were once lit to assist canoes that once traveled along the shoreline of Oahu. The *heiau* (temple) that lies on the summit was built long ago and dedicated to the god of wind for protection against any strong updrafts that could potentially put out the navigational fires and risk the lives of the canoers. In recent memory however the Diamond Head Light built in 1917 now aids any traversers of water rather than the original fires long ago in the history of Hawaii.

It was only in the late eighteenth century that Western explorers and traders visited Lē'ahi and happened to mistake the calcite crystals found on the slope as Diamonds and gave the monument the name Diamond Head. Diamond Head found itself becoming the ideal site for the coastal defense of O'ahu due to its panoramic view from Koko Head to Wai'anae. In the year 1904, Diamond Head was purchased by the Federal Government and was then designated for any military use. The fortification of Diamond Head began in 1908 and the construction of gun emplacements and an entry tunnel through the crater's north wall from Fort Ruger known as the Kapahulu Tunnel. With the establishment of the military presence and importance of Diamond Head for the Federal Government due to its position on the island, Diamond Head served to function as a military base as part of the defense system for the islands during World War II, being designed to protect areas such as Honolulu. Diamond Head or Lē'ahi is most known as of today as a state monument with a historic trail to the summit of the volcanic cone. The trail to the summit was built in the year 1908 as part of the U.S. Army Coastal Artillery defense system. By entering the crater from Fort Ruger, in particular the Kapahulu tunnel one could scale the interior western slopes to the summit. The dirt trail consists of numerous switchbacks designed for both mule and foot traffic alike with the mules hauling materials on this trail for the construction of Fire Control Station Diamond Head which is located on the summit of the volcanic cone. The Kahala Tunnel was then built in the 1940's and is still the public entrance today.

The distance from the trailhead to the summit of Diamond Head Crater is 1.3 km or a 0.8 mile hike one way with a climb of 560 ft from the floor of the crater. By commencing through a lighted tunnel, hikers will exit and find themselves up the summit at the Fire Control Station giving them a full experience of the history of this historic state monument and its importance to the history of Oahu. The amazing geographic features and cultural significance of Lē'ahi make it special to both visitors and native Hawaiians alike making the importance of appreciating Diamond Head all the more incredible. The history of Lē'ahi paints a picture in the context of Hawaiian history.

Resources

https://dlnr.hawaii.gov/dsp/files/2014/09/hsp_dh_brochure_2012.pdf

<https://collectionsofwaikiki.com/diamond-head/>

<https://education.nationalgeographic.org/resource/types-volcanic-cones/>