

A DRY LANDSCAPE



The "lake" in the crater as it appeared in 1900.

Hawaii State Archives



There was once a dryland forest in the crater. But by the early 1800s, the trees were gone and the slopes and floor of the crater were covered by grasses. The change was a result of cattle grazing and fires.

It's crater is about 100 feet deep and had, when we were there, a small pool of water at the bottom, which was completely covered with plants.

F.J.F. Meyen, Botanist, 1831

Today, introduced trees, shrubs, and grasses dominate the landscape of the crater. These plants have adapted to the hot, dry climate, the steep rock slopes, and the shallow soil in the crater.

Was there a wetland in the crater?

A wetland appears on the crater floor after heavy rains because of the low permeability of the tuff soils. In the 1880s, this wetland resembled a lake covering as much as half of the crater floor.

The water attracted various kinds of waterbirds, including the native Coot and Gallinule. Farmers planted gardens along the edges of the lake. Construction in the 1900s filled in this low-lying area.



'Alae 'Ula
Hawaiian Gallinule



'Alae Ke'oke'o
Hawaiian Coot

Why is it so hot and dry?

Diamond Head is often hot, dry, and brown. The crater gets less than 25 inches of rain a year. This is because the moisture-laden clouds cling to the Ko'olau Mountains and only reach the crater during tradewind showers. Winter storms can make the crater temporarily green.

The tradewinds sweeping over the crater make the summit and rim very windy. But the crater walls limit the cool air in the crater.

Common Plants of Diamond Head Crater



Kiawe

(Algoroba)

Introduced in 1853 from South America, this tree is now common in the leeward areas of the major Hawaiian Islands. Related to the mesquite, this tree was grown for livestock feed and charcoal.



'Ilima

(Sida fallax)

This is the most abundant native plant seen in the crater today. It may go dormant during very dry periods. Look for its' yellow to orange flowers when in bloom.



Koa Haole

(Leucaena)

Like *kiawe*, this shrub or small tree has adapted well to Hawai'i's dry, lowland areas. The leaves resemble the native *koa* tree and the name is translated as "foreign *koa*".



Lion's Ear

(Leonotis)

Native to tropical Africa, this annual was introduced to Hawai'i in the early 1900s. It is distinctive for the flowers that form prickly clusters that turn from green to brown when dry.