

poisonous yellow oleander or bestill tree. Many shrubs and other species are also in this group, such as **koa haole** and **lantana**.

Most of the above noxious trees have been established in this area a long time, but several of the plants are recent escapees from nearby resident gardens. The two most frequently seen are the **mock orange** and the **Mickey Mouse** plant.

Among the more interesting introduced plants at home in the hot environs of the park are the **cactus** and **succulents**. One of the most unique is a succulent mint vine which hang from vertical rock faces. This is **Plectranthus prostratus**.

There are many grasses such as **fountain grass** (*Pennisetum setaceum*). Another frequently seen plant is the **cliff break fern** (*Pellaea viridis*) from Africa.

(4) **Adventive** plants are species which were unintentionally brought by man. You might call them **stowaways**. Many of these were weeds in their native area and they became worse weeds here. Some of them has medicinal and other uses. According to the late Dr. Harold St. John, one of Hawaii's outstanding botanists, eight adventives came on early Polynesian canoes, one of these was the **'uhaloa** (*Waltheria indica*). If there has ever been a plant on a botanical roller coaster, 'uhaloa is it. It has been affirmed to be native, only later to be collected by David Nelson, the botanist who visited with Captain Cook. Thus it is proved that this specie was definitely pre-European, and that it is at least "native" because it was valued by the native Hawai'ian people.

Amazingly, the above four categories of plants help us to see our human relationship and responsibilities to the plant kingdom. We must conserve and protect the endemic and indigenous native/natural species and their ecosystems. We need to grow the good cultivated species, such as food plants, for our health, survival and livelihood. And we need to control and eradicate the bad noxious plants and adventive weeds, which harm both the native and the good cultivated plants.

This is exactly what we intend to do as we develop this new park. Clearing areas of weeds around existing native plants and opening new areas for the planting of additional dry-land species. It's a challenge and it won't be easy, but the Mau'umae Nature Park Committee is up to it. The completed loop trail will help us begin this planting phase.

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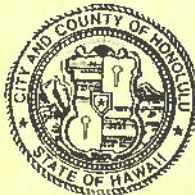
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CITY AND COUNTY OF HONOLULU DEPARTMENT OF PARKS AND RECREATION



MAU'UMAE NATURE PARK

HAWAIIAN LEGEND

The word "mau'umae" means wilted grass in Hawaiian. Legend tells of the two gods, Kane and Kanaloa, who had an arm wrestling match in this area. The wilted grass left from their match was called "mau'umae".

HAWAIIAN HISTORY

Kakuhihewa was a famous ali'i who ruled O'ahu during the late 1500's. His reign was marked by great prosperity during which all the invading chiefs from other islands were defeated. He lived the later part of his life in this area of Kaimuki.

RECENT HISTORY

Mau'umae Nature Park, once called 16th Avenue Park, was transferred from the State to the City in 1991. A volunteer committee was organized under the Kaimuki Neighborhood Board to work on planning and improving the park. The committee meets monthly and has sponsored park cleanups, native Hawai'ian tree plantings, and the clearing of the loop trail. More improvements are planned and will be accomplished through community involvement.

FUTURE

The Mau'umae Nature Park Committee's vision for the future is for this area to be restored to a native Hawai'ian lowland, coastal forest, what the area may have looked like when Kakuhihewa lived here.



Hoou Rock

On the Loop Trail



Ahiaa Rock



Aiaa Rock



Profile Rock

How many of these things can
you find on the trail?



GEOLOGY, GEOGRAPHY, CLIMATE AND VEGETATION

by Kuaka Jendrusch

A large part of the value of Mau'umae Nature Park lies in its potential to increase ones appreciation and understanding of the geology of Hawaii. The park is located on thirty three acres in and surrounding the gulch at the wide makai end of Mau'umae Ridge, which today is better known as Maunalani Heights.

The wide, sloping face of Maunalani Heights (including the Paula Drive side) is a remnant of the continuing erosion of the southeast side of the Ko'olau shield volcano. What once was a continuous slope (such as at Kula, Maui or Kona, Hawai'i) has and is being gradually eroded by streams into wide amphitheater headed valleys divided by varying widths of ridges.

Maunalani Heights is know as a triangular facet, or wider ridge portion between the deep valleys of Wai'ala'e Nui and Wai'oma'b. The main gulch that runs through the park, and at least three similar streams, are widening the gulch and contributing to the erosion of this facet into a knife edge ridge which in the long run of geological time will disappear altogether. This is the case for all the wide ridges above Honolulu. They will erode away and this region will resemble various ridge-less areas of O'ahu, such as nt Kane'ohie and Luualaei.

Within the park, you will find many large boulders and rocks. These are talus or erosional remnants of harder, more resistant rock left in the gulch as the weaker, less resistant rocks eroded away from beneath them. Many of these rocks have unique shapes, ressembling animals or other figures.

The panoramic view one sees from within the park gives you an excellent vista of the south end of the Kaimuki rift, which runs from the northeast through Mauuawili in Kailua, through Palolo district and down to Kalackupikipiki'o (*Black Point*) lava flow. The first three, which dominate the view from the east side of the trail, represent a rare alignment of three totally different types of volcanoes lined up within close proximity of each other.

GEOGRAPHY

Mau'umae (*Maunalani Heights and Mau'umae spatter cone*), Kaimuki, and Le'ahi (Diamond Head) together comprise the seas to the mountain district or 'ili, of Kapahulu, which is one of eight 'ili from Kuli'ou'ou to Manoa that make up the ahupua'a of Waikiki. An ahupua'a is a larger type of sea to mountain district which is the typical unity of land in Hawai'i.

Most Hawai'ian districts were delineated according to geology and topography, and based on this it is easy to see that Kapahulu was a separate 'ili because it's topography is composed of the slopes of these craters and hills which are in sharp contrast to the plains and streams of lower Wai'ala'e Nui, Palolo and Manoa.

In "Sits of O'ahu", the definitive text on ancient Hawai'ian cultural sites, the map incorrectly show Kapahulu as part of the "ahupua'a of Palolo when, in fact, Palolo is an 'ili itself and another one of the eight 'ili which comprise the ahupua'a of Waikiki

CLIMATE

The park has an exceptionally dry and hot micro-climate because it is in the lee of the higher slopes of Mau'umae ridge (*Maunalani Heights*), which itself is already in the lee of the Ko'olau summit.

Winter rains turn the landscape green and the lack of rains in the summer turns the whole area brown and dry, in the same manner as Le'ahi (Diamond Head). During the summer, some of the native "dry-land" plants found here go in to their leafless dormancy.

VEGETATION

The ecosystem types found in Mau'umae Nature Park are a combination of lowland dry mixed, shrub land, and dry forest plant communities. The remnants of an 'ali'i lowland shrub land still exists in the upper east and central portions of the park.

No matter where in the world you are, the plants around you fall into four categories; endemic (1) and indigenous (2) which are native plants, and cultivated (3) and adventive (4) which are human introductions to an area.

As in all other suburban areas of O'ahu, most of the plants here are introductions. But because this area was isolated and undeveloped, several species of native plants still thrive.

(1) **Endemic plants**, which are those natural plants that are exclusive to a specific geographic location such as one or more of the Hawai'ian Islands, or just one valley on an island, are represented in this park by only one specie of fern, *Chellanshes declivens*, which is found in clumps in the shade of boulders. The *williwil* (*Erythrina sandwicensis*), found in the park, has been recently planted as part of the plans that call for the planting of various native lowland and dry forest plants.

The rest of the native plants are (2) **Indigenous**. These are plants natural to an area, but which are also found in one or more additional geographical regions. Among the most common in the park is O'ahu's official flower, the *Ilima* (*Sida fallax*) which is native to Hawai'i, the Pacific and China. A few areas of *a'ali'i* (*Donouaea viscosa*) are present, as is a smaller amount of *'ala 'ala wai nui a kane* (*Peperomia leptostachyd*).

The status and origin of some species are hard to determine. While they might be reasonably surmised as being native or introduced, until better evidence is found to firmly place them in a specific category, they are given a "questionable" status. Among the plants with a questionable indigenous status in the park are *koali'ai*, the five leaved morning glory (*Ipomoea cairica*), *popolo* (*Soldhum americanum*), ma'o hoary abutilon (*Abutilon incanum*), and the famous yet controversial *'uhaloa* (*Waltherid indicd*). [also discussed later in this article.]

(3) **Cultivated** plants are useful species purposely introduced into an area by humans. Food plants are a good example. There are many subgroups of this category, but the most famous one in Hawai'i is the first group of cultivated plants which were brought by the ancestors of the Hawai'ian people, known as **Polynesian Introductions**. The species in the park from this group are: *ti*, *milo*, *kukui*, *kamani*, *kou* and *noni*. These plants have been recently planted in the park by the Mau'umae Nature Park Committee.

One subdivision of cultivated plants comprise the majority of plants in the park. These are called **escaped** or **noxious** plants. Species in this group easily escape from cultivation on their own and become pests. Most of the larger trees in the park are in this group. The most common are the **klawe trees**, a **strangler fig** (*Ka*) [improperly called "Chinese banyan"], **autograph**, **Christmasberry**, **African tulip**, and the