Dominated by towering native 'ōhi'a lehua (*Metrosideros polymorpha*) and koa (*Acacia koa*) trees, with an understory of tree ferns and a rich variety of other native plants, this 4-acre rain forest is a rare old-growth remnant within the Volcano Village area. The oldest of our trees—some more than 65 feet tall—are probably at least 200 years old. Also home to native birds, this montane tropical rain forest (110-120 inches of rain annually) grows in a bed of volcanic ash that last fell during the 18th century.

By contrast, most of the native forest surrounding Volcano Village is second-growth, made up of smaller trees, and much of it is infested with alien plants. The second-growth forest got established when 'ōhi'a and other native trees grew up in abandoned agricultural fields or in forests that had been logged for charcoal.

Niʻaulani is particularly rich in ferns, with nearly 30 species. The largest and most abundant fern is the tree fern ħāpuʻu pulu (*Cibotium glaucum*). Some are well over 100 years old. Tiny filmy ferns are also plentiful throughout our forest, usually clothing the bark of ‘ōhi’a trees. Far more rare is the meu tree fern (*Cibotium chamissoi*), with its evenly woven fibrous trunk and skirt of dead fronds hanging below the live fronds up top.

A number of native plant species at Niʻaulani indicate that this forest stand was protected from the ravages of cattle, feral pigs, and logging. These include old-growth koa trees, the native vine ‘ieʻie (*Freycinetia arborea*), as well as the native ferns hōʻiʻo (*Diplazium sandwicensium*), ħōʻiʻo kula (*Pneumatopteris sandwicensis*), ‘akolea (*Athyrium microphyllum*), and pala (*Marattia douglasii*).

The forest at Niʻaulani is special in another way: It is an old-growth forest with a future. Now that invasive animal and plant species like wild pigs, kahili ginger (*Hedychium gardnerianum*), strawberry guava (*Psidium cattleianum*), and princess flower or glory bush (*Tibouchina urvilleana*) have been controlled, ‘ōhi’a and koa, as well as tree ferns and other understory plants, can regenerate in their native habitat free from the threat of these aggressive aliens.
The Niʻaulani forest is in its prime, partly due to the geological history of the area. But determining its exact history is difficult.

One interpretation of the geological record is that the ecological clock was reset in 1790 by a series of pyroclastic surges from Kīlauea Volcano’s summit. These rushing floods of hot gas, rock, and ash destroyed whatever vegetation had become established, and lay a bed for the forest we see today.

A more recent interpretation is that the soils at Niʻaulani resulted from several eruptions between 1490 and 1790. The lethal blow might have been a 7-inch thick rain of ash, cinder, and rock sometime between 1700 and 1790. This rocky layer, now buried beneath the thick humus and litter of the forest floor, served as the seedling bed for the grand trees now towering over Niaulani.

Over the millennia, native Hawaiians have developed many uses for plants—for everything from adornment and construction to medicine and spiritual offerings. Here are a few examples of traditional uses of plants growing in the Niʻaulani forest. For more information, please see the Niʻaulani Plant Guide.

### Ethnobotany

- **ʻAmaʻu (Sadleria pallida)**
  To treat boils and ulcers, to make red dye. The fronds spread to cover the path of an aliʻi (chief). Kinolau (body form) of the pig god, Kamapuaʻa.

- **Kōlea lau nui (Myrsine lessertiana)**
  For anvils on which to beat kapa (bark cloth). To make dye. To treat oral infections. The leaves said to resemble the kōlea (Pacific golden-plover).

- **Hāpuʻu pulu (Cibotium glaucum)**
  For food, for embalming the dead. Kinolau (body form) of the pig god, Kamapuaʻa.

- **Māmaki (Pipturus albidus)**
  To make kapa (bark cloth). To treat the blood, and as a mild laxative for infants.

- **ʻŌhiʻa lehua (Metrosideros polymorpha)**
  For poi boards and bowls. To increase appetite. Kinolau (body form) of Hōpoe and the Hawaiian gods Kü and Kāne.

- **ʻŌhā wai (Clermontia parviflora)**
  For food and to treat cuts. The sticky sap used to trap birds.

- **ʻŌlapa (Cheirodendron trigynum)**
  For a bluish dye. To treat abscesses, ulcers, and infection. The leaves blowing in the wind said to resemble hula dancers.

### Modern History

Because ʻōhiʻa is a very dense wood, it makes excellent slow-burning firewood and charcoal. Until the 1960s, farmers around Volcano Village logged ʻōhiʻa to make charcoal for cooking and heating their houses, and to sell in Hilo. Abandoned charcoal ovens still exist around the village. Many logged areas now contain second-growth stands of ʻōhiʻa forest. Such patches of forest have also become re-established in fields after farmers let them go fallow.

Niʻaulani ʻōhiʻa trees were saved from logging when the 7.4-acre parcel was set aside in the 1920s as a state forest reserve. A summer cabin (which later became the Kīlauea Ranger Station) was built for L. W. Bryan, the Hawaiʻi District Forester, until his retirement in 1961.

The cabin burned down in the early 1950s and was replaced in the 1960s with a cabin that was dubbed Niʻaulani, after the builder’s wife (one meaning of the name is “brushed by the heavens”). This cabin was managed by the Division of State Parks as a public recreational facility.

When the Volcano Art Center assumed stewardship of the land in 1997, “Niʻaulani” was chosen as the name for the entire site, where VAC’s offices, classrooms, and art studios are being developed alongside the forest’s edge.

The Volcano Art Center has continued Bryan’s efforts to preserve the native forest. A fence was built to exclude wild pigs which were ravaging the forest plants. Gradually, invasive alien plants have been removed, allowing the forest to regenerate.

- **Kāwaʻu (Ilex anomala)**
  For anvils on which to beat kapa (bark cloth) and for canoe trimmings. To treat oral infections, strokes, and heart failure.

- **Koa (Acacia koa)**
  For canoes and weapons. For a red-brown dye. To treat cramps and induce sleep.