

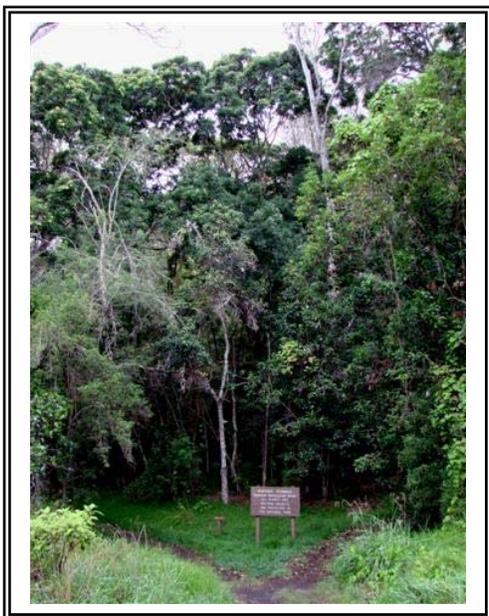
**Cultural Uses of Hawaiian Plants**  
*Nā Ho`ohana Mo`omeheu no nā mea Kanu Hawai`i*



*He keiki aloha nā mea kanu.*  
Beloved children are the plants  
`Ōlelo No`eau Hawaiian Proverbs, Mary Kawena Pukui

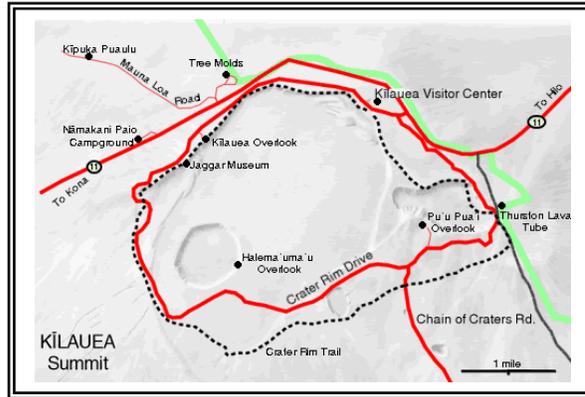
What do you think the above `ōlelo no`eau in the introduction means and what does it teach us about the people of Hawai`i?

**Photo Analysis:** Both photos were taken from approximately the same location, but are almost 100 years apart. Cattle, pigs and goats roamed within Kipuka Puauulu until the late 1980`s.



1. What's different about the photos? BW/Color, forested, cleared
2. What's alike in the photos? Show trailhead
3. Why do you think there is a big difference in the photos? Land use changed between the early and late 1900`s.

## Location: Map Inquiry



1. Approximate the distance from Highway 11 and Mauna Loa Road intersection to the trailhead of Kipuka Puauulu. \_\_\_\_\_
2. This map does not have a key. How do you know which roads are paved? \_\_\_\_\_
3. What do the broken lines indicate? \_\_\_\_\_
4. What do you think the green line represents? \_\_\_\_\_

## Setting the Stage: Linking Science and Culture

What impact did early human settlers have on native plant species in the islands of Hawai'i?

(The Polynesians who settled the islands of Hawai'i revered the native plants they found here and knew that they were as important as the canoe plants they brought with them. Hawaiians understood the need for conservation of these vital resources so that they would always be available. They were also able to create a large knowledge-base about how to use many native plants for religion, food, medicine, building, etc.)

**Scientific Evidence:** "Truth or Dare" - prior learning activity  
See activity and answer page.

**Visual Evidence:** "Cultural Uses of Native Hawaiian Plants" Field Exercise at Kipuka Puauulu.  
Students will work together in small groups (2-3) to identify plant species along the trail. Using the Plant I.D. Cards sets that the ranger will issue, research the cultural and medicinal uses of each one then write them on the chart provided.

**Group supplies needed:** Plant ID Cards set, clip board, activity worksheets for Truth or Dare and Cultural Uses of Native Hawaiian Plants.

**In Closing:** Brainstorm:

1. Why do the native plant species of Kipuka Puauulu need protection and monitoring? (Eradicate alien species, replant natives and prevent fires from destroying the forest.)
2. What happens in an ecosystem when a plant or animal species becomes extinct or is displaced by an alien species? (Species that depend upon it for food, shelter, or protection for their young will die off. Lose cure for a disease in the future. Invasive species will move in and take over. Surrounding under-story plants will lose moisture and shade without a canopy.)

Final thoughts:

Our islands are unique environments that are challenged with a growing list of endangered species and loss of native forests. Hawai`i also has the potential for numerous natural disasters which are predicted to be stronger and more frequent in the coming decades.

Hawai`i has more endangered species per square mile than any other location on the planet. Not even the environmentally sensitive Galapagos Islands have as many imperiled species. Sadly, climate change will undoubtedly cause and increase the numbers of species that are threatened and endangered as global warming continues. Kipuka Puauulu is a prime example of how resource managers have eliminated alien invasives to return this special area to a healthy forest.

### **Resources**

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## Truth or Dare

How much do you already know about plants in a forest such as Kipuka Puauulu? Let's find out by indicating whether each of the following statements is true or false. Read each statement, then mark a T or F in front of its number. If you mark false on any of the items, you must accept the dare and rewrite it to make the statement true. Use the space below each statement as needed.

- \_\_\_\_\_ 1. The most important functions of plants are to beautify our surroundings and provide shade.
- \_\_\_\_\_ 2. The biggest threats to forest areas like Kipuka Puauulu are natural forces such as lightning.
- \_\_\_\_\_ 3. A *kipuka* is an area that has been surrounded by lava, sparing its vegetation and wild life and creating a unique ecosystem.
- \_\_\_\_\_ 4. Most invasive plants are aliens that reach reproductive maturity very quickly.
- \_\_\_\_\_ 5. Roughly ten percent of the endangered species in the entire United States are in Hawai'i.
- \_\_\_\_\_ 6. Native plants are those that arrived in an area without the help of humans.
- \_\_\_\_\_ 7. Kipuka Puauulu is a prime example of how resource managers have eliminated alien invasives to return this special area to a healthy forest.
- \_\_\_\_\_ 8. The terms endangered species and threatened species mean the same thing.
- \_\_\_\_\_ 9. Modern science no longer depends on plants for medicinal uses.
- \_\_\_\_\_ 10. All plants found in Hawai'i originated from somewhere else on earth.

## Truth or Dare

### Answer Sheet

- F 1. The most important functions of plants are to beautify our surroundings and provide shade.  
(The most important functions of plants are that they not only create the oxygen we breathe, they also cleanse harmful carbons from the air).
- F 2. The biggest threats to forests like Kipuka Puauulu are natural forces such as lightening.  
(The biggest threats to forests are human activity and alien invasive plants and animals.)
- T 3. A *kipuka* is an area that has been surrounded by lava, sparing its vegetation and wild life.
- T 4. Most invasive plants are aliens that can reach reproductive maturity very quickly.
- F 5. Roughly ten percent of the endangered species in the entire United States are in Hawai‘i.  
(Sadly, about one third of the endangered species in the United States are found in Hawai‘i.)
- T 6. Native plants are those that arrived to an area without the help of humans.
- T 7. Kipuka Puauulu is a prime example of how resource managers have eliminated alien invasives to return this special area to a healthy forest.
- F 8. The terms endangered species and threatened species mean the same thing.  
“Endangered” means that the numbers are so low that extinction is a strong possibility.  
Threatened species have declining numbers and are likely to become endangered.
- F 9. Modern science no longer depends on plants for medicinal uses.  
Like the early Hawaiians, scientists still rely on plant compounds to make many medicines we use everyday and they continue to research and test plants to look for new treatments and cures.
- T 10. All plants found in Hawai‘i originated from somewhere else on earth.

# Nā Ho`ohana Mo`omeheu no ka mea Kanu Hawai`i

## Cultural Uses of Hawaiian Plants

<u>Name of Plant</u>	<u>Status</u>	<u>Inferred Arrival Method</u>	<u>Part of Plant Used</u>	<u>Used for...</u>

1. Tell one way you can use one of the native plants you read about here to help you or a member of your family today. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**2. Making the Climate Change connection:**

What will happen to some of these special plants if global warming and climate changes occur?  
What can humans do to better protect them? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_