

## The Dry Forests of Oahu, Hawaii, NEED HELP.

The Hawaiian Islands are home to some of the world's most endangered forests. The most endangered dry forests are on the island of Oahu, which contains less than 0.2% native dry forest (1.7 km<sup>2</sup>) with less than 30% protected in reserves (0.5 km<sup>2</sup>). A total of 68 native tree and shrub species have been identified in the dry forest region of Oahu and 45% have been identified as threatened species according to the IUCN and U.S. Fish and Wildlife Service. Since 2000, thirteen organizations (federal, state, private) have been involved in restoration efforts of Hawaiian dry forests at 18 locations in Oahu. However, additional extensive restoration efforts are still needed in mixed native and non-native dry forests on Oahu and in low elevation urban and rural areas. The restoration of this forest type will be of central importance to removing species from threatened and endangered species lists and preventing additional species from being listed.

The following pages contain data relating to the current state of Oahu's dry forests:

**FIGURE 1.** Extent of native dry forest and nature reserves on the island of Oahu.



**FIGURE 2.** GAP Analysis land cover types in the dry forest region of Oahu.

Gap Analysis Class	Oahu (km <sup>2</sup> )	Dry Region (km <sup>2</sup> )
<b>Native Forest</b>		
Closed Ohia Forest	42.5	0.9
Ohia Forest	18.5	0.0
Open Koa-Ohia Forest	28.7	0.4
Open Ohia Forest	37.5	0.4
<b>Mixed native-non-native forest</b>		
Mixed Native-Alien Forest	36.4	13.1
Mixed Native-Alien Shrubs and Grasses	2.7	2.6
<b>Native Vegetation Types</b>		
Native Shrubland / Sparse Ohia	18.4	0.4
Native Wet Cliff Vegetation	6.5	0.0
Uluhe Shrubland	10.8	0.8
<b>Non-Native Land Cover</b>		
Water	13.1	12.8
Wetland Vegetation	1.9	1.1
Agriculture	131.1	130.0
Alien Shrubs and Grasses	40.2	39.5
Alien Trees and Shrubs	25.0	23.6
High Intensity Developed	102.4	101.4
Low Intensity Developed	183.8	179.3
Alien Grassland	160.0	153.4
Fountain Grass / Buffel Grass Grassland	16.5	16.5
Alien Shrubland	35.7	31.1
Christmas Berry Shrubland	37.3	26.0
Koa Haole Shrubland	106.9	105.5
Alien Forest	420.6	201.8
Closed Kukui Forest	8.0	4.8
Kiawe Forest and Shrubland	18.1	18.0
Kiawe-Koa Haole Forest and Shrubland	36.3	36.3
Uncharacterized Forest	0.2	0.1
Uncharacterized Shrubland	1.2	0.7
Very Sparse Vegetation to Unvegetated	15.8	15.1
<b>Total</b>	<b>1555.4</b>	<b>1115.6</b>

**FIGURE 3.** Native trees and shrubs  $\geq 2.5$  cm dbh that occur within the dry region of Oahu and conservation categories according to the IUCN, US Fish and Wildlife, and NatureServe. The IUCN Redlist classifications are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (V), Near Threatened (NR), Lower Risk/Near Threatened (LR), and Not Listed (NL). The U.S. Fish and Wildlife Service Endangered Species List classifications are: Endangered (E), Threatened (T), Candidate (C), and Not Listed (NL). NatureServe classifications are: Extinct (X), Critically Imperiled (CI), Imperiled (I), Vulnerable (V), Apparently Secure (AS), Secure (S), and Not Ranked (NR). Taxonomy follows Wagner et al. (1999) with taxonomic and nomenclatural revisions according to Wagner and Herbst (2003).

<b>Family</b>	<b>Species</b>	<b>IUCN</b>	<b>Federal</b>	<b>NatureServe</b>
Amaranthaceae	<i>Nototrichium sandwicense</i>	NL	NL	V
Anacardiaceae	<i>Rhus sandwicensis</i>	NL	NL	I
Apocynaceae	<i>Pteralyxia macrocarpa</i>	V	C	CI
Apocynaceae	<i>Rauvolfia sandwicensis</i>	NL	NL	V
Araliaceae	<i>Reynoldsia sandwicensis</i>	NT	NL	I
Araliaceae	<i>Tetraplasandra oahuensis</i>	NL	NL	V
Arecaceae	<i>Pritchardia kaalae</i>	CE	E	CI
Ebenaceae	<i>Diospyros hillebrandii</i>	NL	NL	I
Ebenaceae	<i>Diospyros sandwicensis</i>	NL	NL	AS
Epacridaceae	<i>Leptecophylla tameiameia</i>	NL	NL	V
Euphorbiaceae	<i>Chamaesyce celastroides</i>	NL	E	V
Euphorbiaceae	<i>Chamaesyce herbstii</i>	CE	E	CI
Euphorbiaceae	<i>Claoxylon sandwicense</i>	NL	NL	I
Euphorbiaceae	<i>Euphorbia haeleeleana</i>	EN	E	CI
Fabaceae	<i>Acacia koa</i>	NL	NL	AS
Fabaceae	<i>Caesalpinia kavaiensis</i>	CE	E	CI
Fabaceae	<i>Caesalpinia bonduc</i>	NL	NL	NR
Fabaceae	<i>Erythrina sandwicensis</i>	NL	NL	NR
Fabaceae	<i>Sesbania tomentosa</i>	NL	E	I
Fabaceae	<i>Sophora chrysophylla</i>	NL	NL	V
Malvaceae	<i>Abutilon menziesii</i>	CE	E	CI
Malvaceae	<i>Abutilon sandwicense</i>	CE	E	CI
Malvaceae	<i>Hibiscus brackenridgei</i>	NL	E	CI
Malvaceae	<i>Hibiscus kokio</i>	NL	NL	I
Malvaceae	<i>Kokia lanceolata</i>	EX	NL	X
Malvaceae	<i>Sida fallax</i>	NL	NL	V
Moraceae	<i>Streblus pendulinus</i>	NL	NL	V
Myoporaceae	<i>Myoporum sandwicense</i>	NL	NL	V
Myrsinaceae	<i>Myrsine lanaiensis</i>	NL	NL	V
Myrsinaceae	<i>Myrsine lessertiana</i>	NL	NL	NR
Myrtaceae	<i>Eugenia koolauensis</i>	EN	E	CI
Myrtaceae	<i>Eugenia reinwardtiana</i>	NL	NL	I
Myrtaceae	<i>Metrosideros polymorpha</i>	NL	NL	S
Nyctaginaceae	<i>Pisonia brunoniana</i>	NL	NL	NR



Nyctaginaceae	<i>Pisonia sandwicensis</i>	NL	NL	V
Oleaceae	<i>Nestegis sandwicensis</i>	NL	NL	NR
Phyllanthaceae	<i>Antidesma pulvinatum</i>	NL	NL	I
Phyllanthaceae	<i>Flueggea neowawraea</i>	CE	E	CI
Pittosporaceae	<i>Pittosporum confertiflorum</i>	NL	NL	NR
Rhamnaceae	<i>Alphitonia ponderosa</i>	V	NL	I
Rhamnaceae	<i>Colubrina oppositifolia</i>	CE	E	CI
Rubiaceae	<i>Bobea brevipes</i>	NL	NL	NR
Rubiaceae	<i>Bobea elatior</i>	NL	NL	NR
Rubiaceae	<i>Bobea sandwicensis</i>	V	NL	CI
Rubiaceae	<i>Bobea timonioides</i>	EN	NL	CI
Rubiaceae	<i>Gardenia brighamii</i>	CE	E	CI
Rubiaceae	<i>Psychotria hathewayi</i>	NL	NL	I
Rubiaceae	<i>Psychotria kaduana</i>	NL	NL	I
Rubiaceae	<i>Psychotria mariniana</i>	NL	NL	V
Rubiaceae	<i>Psydrax odorata</i>	NL	NL	NR
Ruscaceae	<i>Pleomele forbesii</i>	EN	C	CI
Ruscaceae	<i>Pleomele halapepe</i>	V	NL	I
Rutaceae	<i>Melicope elliptica</i>	NL	NL	CI
Rutaceae	<i>Melicope pallida</i>	EN	E	CI
Rutaceae	<i>Zanthoxylum dipetalum</i>	NL	NL	I
Rutaceae	<i>Zanthoxylum kauaense</i>	NT	NL	I
Salicaceae	<i>Xylosma hawaiiense</i>	NL	NL	V
Santalaceae	<i>Exocarpos gaudichaudii</i>	EN	NL	CI
Santalaceae	<i>Santalum ellipticum</i>	NL	NL	I
Santalaceae	<i>Santalum freycinetianum</i>	NL	NL	V
Sapindaceae	<i>Alectryon macrococcus</i>	CE	E	CI
Sapindaceae	<i>Dodonaea viscosa</i>	NL	NL	NR
Sapindaceae	<i>Sapindus oahuensis</i>	V	NL	I
Sapotaceae	<i>Nesoluma polynesianum</i>	V	NL	I
Sapotaceae	<i>Pouteria sandwicensis</i>	NL	NL	V
Solanaceae	<i>Nothoecstrum latifolium</i>	EN	NL	CI
Thymelaeaceae	<i>Wikstroemia oahuensis</i>	NL	NL	AS
Urticaceae	<i>Pipturus albidus</i>	NL	NL	V