Layer Name: Vegetation Maps

Coverage Name: VED, VEG, VER

Layer Type: Polygon

Status: Complete

Geog. Extent: Islands of Molokai, Lanai, Maui and Hawaii

Projection: Universal Trans Mercator, Zone 4 (Meters)

Datum: NAD 83 HARN

Description: Vegetation maps of varying detail for the islands of Molokai, Lanai, Maui and Hawaii. Coverage named allved is most detailed (Hawaii only); coverage named allveg is more generalized; coverage named allver is the most generalized.

Source: Technical Report #68, "Vegetation Maps of the Upland Plant Communities on the Islands of Hawai'i, Maui, Moloka'i, and Lana'i", June, 1989, James D. Jacobi, author.

From the report abstract:

> "A set of vegetation maps describing upland plant communities on four of the major Hawaiian Islands was prepared as part of a survey conducted by the U.S. Fish and Wildlife Service in 1976-1981 to determine the current status of native forest birds and their associated habitats. During this project, 68 map sheets were produced at the scale of 1:24,000, overlaying the U.S. Geological Survey topographic quad maps for selected portions of the islands of Hawai'i, Lana'i, Maui, and Moloka'i. Map units were differentiated on the basis of tree canopy cover, tree height, and dominant species composition of the tree and understory vegetation layers. A hierarchical classification system was developed that allows for presentation and discussion of the vegetation units at three levels of detail."

History: Digital maps provided by the National Ecology Research Center of the U.S. Fish and Wildlife Service in MOSS format in 1989. OP staff converted to Arc/Info using the MOSSARC command, and used ArcEdit to correct "doughnut" polygon errors.

December, 2003:
It was discovered that the look-up tables were incorrect; OP staff corrected tables and re-published layers.

January, 2004:
OP Staff joined the look up tables directly to the layers themselves, thus eliminating the need to join the lookup tables in ArcView and/or ArcMap.

January 2004:
It was discovered that some features on the Big Island appear to be shifted slightly to the north, particularly in the Kilauea Volcano area. OP Staff is working on correcting the problem.

Note 1: The Pua Akala quadrangle on the Big Island is missing from the ver layer (was missing from the original data received on tape).

Note 2: There were several codes in the veg and ver layers that had been assigned map unit numbers for which there was no corresponding values in any of the original documentation from the USFWS (e.g., in the veg layer, there were polygons having code "41," however code number 41 was not listed in the original USGWS documentation). For these polygons, OP staffed assigned the code value of "Unknown."

Attributes: Polygons:

AREA	area of polygon (sq. meters)
PERIMETER	perimeter of polygon (meters)
DATA	Original Alpha Vegetation Classification Unit
MAP_UNIT	Original Numeric Vegetation Classification Number
CODE	Vegetation Code (comprised of values of following items)
ENV	Species Association Type
CANOPY_TYP	Tree Canopy Crown Cover
CANOPY_HGT	Tree Canopy Height (ved layer only)
OVERSTORY	Tree species composition of overstory
UNDERSTORY	Understory Species Composition
MODIFIER	Other information
DEGREE_OF_	Degree of Disturbance (ved and veg layers only)

(Attribute value descriptions can be found on following pages)

Fields:

MAP_UNIT Numeric Vegetation Classification Code

DATA Alpha Vegetation Classification Code

CODE	Description
various	Complete vegetation code, comprised of values of following items (eg: Code = ENV+CANOPY_TYP+....., etc.)
Cleared	Area has been cleared
Not Mapped	Area was not mapped
OUT	Area is out of study area
Unknown	Code for this polygon is unknown - see Note 2, above

ENV (Species Association Type)

Code	Description
D	Dry habitat species
M	Mesic (moist) habitat species
W	Wet habitat species

CANOPY_TYP (Tree Canopy Crown Cover)

Code	Description
c	Closed canopy, most crowns interlocking; > 60% cover
o	Open canopy, some or no interlocking crowns; >25-60% cover
s	Scattered trees; 5-25% cover
vs	Very scattered trees; <5% cover

CANOPY_HGT (Tree canopy height - ved layer only)

Code	Description
1	Low scrub trees, monopodial; 2-5 m tall
2	Scrub trees, moderate stature; >5-10 m tall
3	Tall stature trees; >10 m tall

OVERSTORY (Tree species composition of overstory)

(Note: See below for Species dominance information)

Code	Species name or association
Ac	Acacia koa (koa)
Al	Aleurites moluccana (kukui)
Ch	Cheirodendron trigynum (olapa)
Di	Diospyros ferrea (lama)
Ep	Euphorbia sp. ('akoko)
Me	Metrosideros polymorpha ('ohia)
Mr	Myrica faya (faya tree)
My	Myoporum sandwicensis (naio)
nt	Native trees
Psc	Psidium calleianum (strawberry guava, waiawi)
Sa	Sapindus saponaria (manele, soapberry)
So	Sophora chrysophylla (mamane)
xt	Introduced trees

UNDERSTORY (Understory Species Composition)

(Note 1: See below for Species dominance information)

(Note 2: Species name abbreviations for trees may also be used if the understory is dominated by individuals of that species, less than 2 m tall)

Code	Species name or association
bg	Structured bog
mf	Matted ferns: Dicranopteris spp.,Hicriopteris sp.,Sticherus sp.
mg	Mixed native-introduced grasses, sedges, or rushes
ng	Native grasses
ns	Native shrubs
Pm	Passiflora mollissima (banana poka - introduced)
Sp	Sphagnum sp.
tf	Native treeferns, Cibotium spp. (hapu'u)
xg	Introduced grasses, sedges, or rushes
xh	Introduced herbaceous species
xs	Introduced shrubs
xx	Bare ground (at least 25% of the area without vegetation)

MODIFIER (Other information)

Code	Description
bur	Recently burned
clr	Recently cleared or logged
fum	Volcanic fume defolieation
msc	Miscellaneous unit - mix of native and introduced species in low elevation areas
pio	Pioneer vegetation, seral stage on recent lava flow
sng	Many standing dead or defoliated trees

DEGREE OF DISTURBANCE (ved and veg layers only)

NN	Communities totally dominated by native species of plants.
NX	Communities that have the dominant vegetation layer occupied by native species and the subdominant layer primarily occupied by exotic species.
XN	Communities dominated by introduced species but contain remnant populations of native species; no native community structure remaining.
XX	Communities that are totally dominated by introduced plants; virtually no native species remaining.
??	Non-vegetated areas or disturbance not determined.

*** SPECIES DOMINANCE ***

Overstory and Understory species dominance can be ascertained from the notation used in the species values. Substitute the appropriate species name or association for the letters A, B, or C.

Species Notation	Relative Dominance
A	Only A present
A-B	A and B codominant
A,B	A dominant, B subdominant
A/B	Mosaic with either A or B present
A,B-C	A dominant, B and C subdominant
A-B,C	A and B codominant, C subdominant
A-B-C	A,B,C codominant

Example:

DATA:	21	Vegetation Classification Code 21
CODE:		o1My,2So(D:ns-xg-xh)bur
ENV:	D	Dry habitat species
CANOPY_TYP:	o	Open canopy, some or no interlocking...
CANOPY_HGT:	1	Low scrub trees, modopodial; 2-5 m tall
OVERSTORY:	My,2So	naio dominant, moderate stature mamane subdominant
UNDERSTORY:	ns-xg-xh	native shrubs, introduced grasses, introduced herbacious species, all codominant
MODIFIER:	bur	recently burned
DEGREE OF DIST:	NX	dominant vegetation layer (naio) occupied by native species subdominant layer (mamane) primarily occupied by exotic species.

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