Forest Inventory and Analysis Database – Pacific Islands: Database Description and Users Guide Version 3.0

FIADB-PI

Forest Inventory and Analysis Program
U.S. Department of Agriculture, Forest Service

The Forest Inventory and Analysis Database – Pacific Islands: Database Description and Users Guide Version 3.0

Forest Inventory and Analysis Program
U.S. Department of Agriculture, Forest Service

Purpose of this Manual

This manual provides definitions for variables and codes in the Forest Inventory and Analysis Database for the Pacific Islands (FIADB-PI). The intended audience includes those within and outside FIA who are interested in using FIA data for forest resource analysis. Coupled with the data definitions, the field manual describes acquisition methods while resource bulletins provide background and context for the data.

The FIA Program

The mission of FIA is to determine the status and trend in forest resources. The Forest Inventory and Analysis program was directed by Congress in the Forest and Rangeland Renewable Resources Research Act of 1978 and the McSweeney-McNary Forest Research Act of 1928. For the purposes of this Act, the terms "United States" and "State" includes the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, and the territories and possessions of the United States, now known as the U.S. Affiliated Pacific Islands (American Samoa, Guam, Palau, the Northern Mariana Islands, Federated States of Micronesia, and the Marshall Islands).

FIA is the only program that collects, publishes, and analyzes data from all ownerships of forest land in the United States (Smith 2002). Throughout the 75-year history of the program, inventories have been conducted by a number of regional FIA programs. Currently, the national FIA program is implemented by four regional programs that are coordinated by a Washington Office. The Pacific Northwest FIA program is responsible for collecting data in the Pacific Islands.

In recent years, the FIA program has grown and diversified to include additional measurements that describe various ecological attributes of forests in the Northwest and Pacific Islands.

Inventory Schedule for Pacific Island Groups

INV. YR.	STATE NAME
2001	• America Samoa
2002	• Guam
2003	• Palau
2004	• Northern Mariana Islands
2005-2006	• Federated States of Micronesia
2008	• Marshall Islands
	• Hawaii

Database Structure

The FIA Database is a relational database stored in Microsoft Access®. Each table is composed of columns or variables that describe attributes for each record or occurrence, listed as rows. For example, each row in the TREE table is a separate tree record. Each column describes a unique attribute about each tree record, such as the diameter (DIA) or the height (HT) of that tree.

Tables are linked together in a somewhat hierarchical fashion. Each record in the PLOT table may have multiple subplots (up to 4), multiple conditions, and multiple trees that are found in their corresponding tables. The idea behind a relational database is to reduce data redundancy by storing different levels of data in different hierarchies or tables, and allowing easy access and sorting of relevant data.

Table Descriptions

- BOUNDARY table – Provides a description of the demarcation line between two conditions that occur on a single subplot. Can be linked to plot record where boundary.plt_cn=plot.cn.

- COND table – Provides information on the discrete combination of landscape attributes that define the condition (a condition will have the same land class, reserved status, owner group, forest type, stand-size class, regeneration status, and stand density). Can be linked to plot record where cond.plt_cn=plot.cn.

- COUNTY table – Reference table for the county and unit names. Can be linked to plot records where county.cn=plot.cty_cn.

- PLOT table – Provides information relevant to the entire 1-acre field plot.

- SEEDLING table – Provides a count of the number of live trees of a species found on a microplot that are less than 1 inch in diameter but at least 6 inches in length for conifer species or at least 12 inches in length for hardwood species. Can be linked to plot record where seedling.plt_cn=plot.cn.

- SUBPLOT table – Describes the features of a single subplot. There are multiple subplots per 1-acre field plot.

- SUBP_COND table – Contains information about the proportion of a subplot in a condition.

- SURVEY table – Contains one record for each year an inventory is conducted in a state. Can be linked to plot records where survey.cn=plot.srv_cn.

- TREE table – Describes each tree 1 inch in diameter and larger found on a microplot or subplot. Can be linked to plot record where tree.plt_cn=plot.cn.

- VEG_PLOT_SPECIES – Provides information about field spp ID compared to final spp ID for under story vegetation collected on the plot.

- VEG_SUBPLOT_SP – Provides data on under story vegetation in terms of species code and percent canopy cover

- VEG_VISIT – Provides information about the sampling day when the vegetation profile was conducted.

- COND_ISLAND – Pacific Islands database-specific variables. Contains information that does not appear in the national version of FIADB.

- TREE_ISLAND – Pacific Islands database-specific variables for the tree table. Contains information that does not appear in the national version of FIADB, such as rooting and branching characteristics.

- PLOT_POP_STRATUM_ASSGN table – Stratum information is assigned to a plot by overlaying the plot's location on the phase 1 imagery. Plots are linked to their appropriate stratum for an evaluation with a corresponding expansion factor.

- ESTN_UNIT_STRATUM table – An estimation unit is a geographic area that can be drawn on a map. It has known area and is field-sampled at the same intensity. Generally estimation units are contiguous areas, but exceptions are made when certain ownerships are sampled at different intensities. One record in the ESTN_UNIT_STRATUM table corresponds to a single estimation unit.

Each variable in FIADB is referenced by its table name and variable name, linked together with a period "."; e.g., TREE.DIA refers to tree diameter, COND.STDAGE refers to the stand age of the identified condition.

BOUNDARY table

BOUNDARY_ CN — Sequence number. A unique number used to identify each boundary record in the table.

PLT_CN — Plot sequence number. Foreign key linking the boundary record to the plot record.

INVYR — Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.

STATECD — "State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.

COUNTYCD — "County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.

PLOT — Plot number. A numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.

SUBP — Subplot number. The number assigned to the subplot (number values of 1 through 4).

SUBPTYP — Plot type code. Specifies whether the boundary data are for a subplot, microplot, or macroplot.

Code	Description
1	Subplot boundary
2	Microplot boundary
3	Macroplot boundary

BNDCHG — Boundary change code. A code to indicate the relationship between previously recorded and current boundary information. Set to null for new plots (PLOT.KINDCD = 1 or 3).

Code	Description
0	No change – boundary is the same as indicated on plot map by previous crew.
1	New boundary, or boundary data have been changed to reflect an actual on-the-ground physical change resulting in a difference from the boundaries recorded.
2	Boundary has been changed to correct an error from a previous crew.
3	Boundary has been changed to reflect a change in variable definition.

CONTRAST	Contrasting condition. The condition class number of the condition class that contrasts with the condition class located at the subplot center (for boundaries on the subplot or macroplot) or at the microplot center (for boundaries on the microplot), e.g., the condition class present on the other side of the boundary.
AZMLEFT	Left azimuth. The azimuth, to the nearest degree, from the subplot, microplot, or macroplot plot center to the farthest left point (facing the contrasting condition class) where the boundary intersects the subplot, microplot, or macroplot plot circumference.
AZMCORN	Corner azimuth. The azimuth, to the nearest degree, from the subplot, microplot, or macroplot plot center to a corner or curve in a boundary. If a boundary is best described by a straight line between the two circumference points, then 000 is recorded for BOUNDARY.AZMCORN.
DISTCORN	Corner distance. The horizontal distance, to the nearest 1 foot, from the subplot, microplot, or macroplot plot center to the boundary corner point. Null when BOUNDARY.AZMCORN equals 000; populated when BOUNDARY.AZMCORN is greater than 000.
AZMRIGHT	Right azimuth. The azimuth, to the nearest degree, from subplot, microplot, or macroplot plot center to the farthest right point (facing the contrasting condition) where the boundary intersects the subplot, microplot, or macroplot plot circumference.
CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.

COND table

CND_CN	Sequence number. A unique number used to identify a condition record.
PLT_CN	Plot sequence number. Foreign key linking the boundary record to the plot record.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	"State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
COUNTYCD	"County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.
PLOT	Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
FORTYPCD	Forest type code. The forest typing algorithm is a hierarchical procedure. The algorithm begins by comparing the live tree stocking of softwoods and hardwoods and continues in a stepwise fashion comparing successively smaller subgroups of the preceding aggregation of initial types. The aggregated initial type groups used at each step of the process are called combined type groups. Each initial type group can occur in more than one of these combined groups. The stepwise progression proceeds in most cases until a plurality of an initial type group is identified. In certain situations, the algorithm may revert to the field call. These situations are what would cause this variable to differ from COND.FORTYPCDCALC.

Refer to appendix D for a detailed list of forest type codes. Nonstocked forest land is less than 10 percent stocked.

STDAGE — Stand age. For annual inventories (PLOT.MANUAL > 1.0), stand age is equal to the field-recorded stand age (COND.FLDAGE) with two exceptions. One exception is if field-recorded stand age equals either 998 or 999, then stand age is computed. For all inventories, nonstocked stands have stand age set to 0. In periodic inventories, stand age is determined using local procedures. Annual inventory data will contain stand ages assigned to the nearest year. For some older inventories, stand age was recorded in 10-year classes for stands < 100 years old, 20-year age classes for stands between 100 and 200 years, and 100-year age classes if older than 200 years. These classes were converted to store the midpoint of the age class in years. Null values in the periodic data (COND.INVYR < 1999) indicate that the stand was recorded as mixed age on forested condition classes. Age is difficult to measure and therefore stand age may have large measurement errors.

STDSZCD — Stand-size class code. A classification of the predominant (based on stocking) diameter class of live trees within the condition assigned using an algorithm. Large diameter trees are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter and smaller than large diameter trees. Small diameter trees are less than 5.0 inches diameter. When less than 25 percent of the plot samples the forested condition (COND.CONPROP_UNADJ < 0.25), this attribute is set to the equivalent field-recorded stand size class (COND.FLDSZCD).

Code	Description
1	Large diameter: Stands with an all live stocking of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees equal to or greater than the stocking of medium diameter trees
2	Medium diameter: Stands with an all live stocking of at least 10 (base 100); with more than 50 percent of the stocking in medium and large diameter trees; and with the stocking of large diameter trees less than the stocking of medium diameter trees
3	Small diameter: Stands with an all live stocking value of at least 10 (base 100) on which at least 50 percent of the stocking is in small diameter trees
5	Nonstocked: Forest land with all live stocking less than 10

ASPECT

Aspect. The direction of slope, to the nearest degree, for most of the condition. North is recorded as 360. When slope is less than 5 percent, there is no aspect and this item is set to zero. When PLOT.MANUAL < 1.0, the field crew measured condition aspect. When PLOT.MANUAL >= 1.0, aspect is collected on subplots but no longer collected for conditions. NOTE: for plots measured when PLOT.MANUAL >= 1.0, the aspect from the subplot representing the greatest percentage of the condition will be assigned as a surrogate. In the event that two or more subplots represent the same percentage of area in the condition, the slope from the lower numbered subplot is used.

CONDPROP_UNADJ

Condition proportion unadjusted. The unadjusted proportion, based on the sampling design (either the subplot or macroplot), of the plot that is in the condition. If the value of the condition variable COND.PROP_BASIS is “MACR” then COND.CONDPROP_UNDADJ is based on the macroplot otherwise it is based on the subplot. The sum of all condition proportions for a plot equals 1. The condition proportion is adjusted by either the POP_STRATUM.ADJ_FACTOR_MACR or the POP_STRATUM.ADJ_FACTOR_SUBP when generating population estimates to take into account “out of population” and “denied access” portions of subplots within the stratum.

COND_STATUS_CD

Condition status code. A code to indicate the basic land cover.

Code	Description
1	Land that is within the population of interest, is accessible, is on a subplot that can be occupied at subplot center, can safely be visited, and meets at least one of the two following criteria: (a) the condition is at least 10-percent stocked by trees of any size or has been at least 10-percent stocked in the past. Additionally, the condition is not subject to nonforest use(s) that prevent normal tree regeneration and succession such as regular mowing, intensive grazing, or recreation activities; or (b) in several western woodland types where stocking cannot be determined, and the condition has at least 5 percent crown cover by trees of any size, or has had at least 5 percent cover in the past. Additionally, the condition is not subject to nonforest use that prevents normal regeneration and succession such as regular mowing, chaining, or recreation activities. To qualify as forest land, the prospective condition must be at least 1.0 ac in size and 120.0 ft wide measured stem-to-stem. Forested strips must be 120.0 ft wide for a continuous length of at least 363.0 ft in order to meet the acre threshold.

Forested strips that do not meet these requirements are classified as part of the adjacent nonforest land.

2 Nonforest land is any land within the sample that does not meet the definition of accessible forest land or any of the other types of basic land covers. To qualify, the area must be at least 1.0 ac in size and 120.0 ft wide, with some exceptions that are described in the document “Forest inventory and analysis national core field guide, volume 1: field data collection procedures for phase 2 plots, version 2.0”. Evidence of "possible" or future development or conversion is not considered. A nonforest land condition will remain in the sample and will be examined at the next occasion to see if it has become forest land.

3 Noncensus water: Lakes, reservoirs, ponds, and similar bodies of water 1.0 ac to 4.5 ac in size. Rivers, streams, canals, etc., 30.0 ft to 200 ft wide (1990 U.S. Census definition). This definition was used in the 1990 census and applied when the data became available. Earlier inventories defined noncensus water differently.

4 Census water: Lakes, reservoirs, ponds, and similar bodies of water 4.5 ac in size and larger; and rivers, streams, canals, etc., more than 200 ft wide (1990 U.S. Census definition).

5 Nonsampled : conditions within accessible forest land are delineated, regardless of size, as a separate condition.

DSTRBCD1 Disturbance 1 code. A code to indicate the kind of disturbance occurring since the last measurement or within the last 5 years for new plots. The area affected by the disturbance must be at least 1 acre in size. A significant level of disturbance (mortality or damage to 25 percent of the trees in the condition) is required. This attribute is new in annual inventory. Codes 11, 12, 21, 22, and 55 are valid where PLOT.MANUAL is 2.0 and later.

Code	Description
0	No visible disturbance
10	Insect damage
11	insect damage to understory vegetation
12	insect damage to trees, including seedlings and saplings
20	Disease damage
21	disease damage to understory vegetation
22	disease damage to trees, including seedlings and saplings
30	Fire damage (from crown and ground fire, either prescribed or natural)
31	Ground fire damage

32 Crown fire damage

40 Animal damage
- 41 Beaver (includes flooding caused by beaver)
- 42 Porcupine
- 43 Deer/ungulate
- 44 Bear (CORE OPTIONAL)
- 45 Rabbit (CORE OPTIONAL)
- 46 Domestic animal/livestock (includes grazing)

50 Weather damage
- 51 Ice
- 52 Wind (includes hurricane, tornado)
- 53 Flooding (weather induced)
- 54 Drought
- 55 Earth movement/avalanches

60 Vegetation (suppression, competition, vines)

70 Unknown / not sure / other (include in NOTES)

80 Human-caused damage – any significant threshold of human-caused damage not described in the DISTURBANCE codes or in the TREATMENT codes.

DSTRBYR1 Disturbance year 1. Year in which Disturbance 1 is estimated to have occurred. If the disturbance occurs continuously over a period of time, the value 9999 is used. This attribute is new in annual inventory.

DSTRBCD2 Disturbance 2 code. The second disturbance code, if the stand has experienced more than one disturbance. See COND.DSTRBCD1 for more information. This attribute is new in annual inventory.

DSTRBYR2 Disturbance year 2. The year in which Disturbance 2 occurred. See COND.DSTRBYR1 for more information. This attribute is new in annual inventory.

DSTRBCD3 Disturbance 3 code. The third disturbance code, if the stand has experienced more than two disturbances. See COND.DSTRBCD1 for more information. This attribute is new in annual inventory.

DSTRBYR3 Disturbance year 3. The year in which Disturbance 3 occurred. See COND.DSTRBYR1 for more information. This attribute is new in annual inventory.

FLDTYPCD Field forest type code. Forest type, assigned by the field crew, based on the tree species or species groups forming a plurality of all live stocking. Refer to appendix D for a detailed list of forest type codes. Nonstocked forest land is less than 10 percent stocked.

FLDSZCD Field stand-size class code. Field-assigned classification of the predominant (based on stocking) diameter class of live trees within the condition.

Code Description

0 Nonstocked: Meeting the definition of accessible land and one of the following applies (1) less than 10 percent stocked by trees of any size, and not classified as cover trees (see code 6), or (2) for several western woodland species where stocking standards are not available, less than 5 percent crown cover of trees of any size

1 ≤ 4.9 inches (seedlings / saplings). At least 10 percent stocking (or 5 percent crown cover if stocking standards are not available) in trees of any size; and at least 2/3 of the crown cover is in trees less than 5.0 inches DBH/DRC

2 5.0 – 8.9 inches (softwoods)/ 5.0 – 10.9 inches (hardwoods). At least 10 percent stocking (or 5 percent crown cover if stocking standards are not available) in trees of any size; and at least one-third of the crown cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the crown cover is in softwoods 5.0 – 8.9 inches diameter and/or hardwoods 5.0 –10.9 in DBH, and/or for western woodland trees 5.0 – 8.9 inches DRC

3 9.0 – 19.9 inches (softwoods)/ 11.0 – 19.9 inches (hardwoods). At least 10 percent stocking (or 5 percent crown cover if stocking standards are not available) in trees of any size; and at least one-third of the crown cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the crown cover is in softwoods 9.0 – 19.9 inches diameter and/or hardwoods between 11.0 –19.9 in DBH, and for western woodland trees 9.0 – 19.9 inches DRC

4 20.0 – 39.9 inches. At least 10 percent stocking (or 5 percent crown cover if stocking standards are not available) in trees of any size; and at least one-third of the crown cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the crown cover is in trees 20.0 – 39.9 inches DBH

5 40.0+ inches. At least 10 percent stocking (or 5 percent crown cover if stocking standards are not available) in trees of any size; and at least one-third of the crown cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the crown cover is in trees ≥ 40.0 inches DBH

6 Cover trees (trees not on species list, used for plots classified as nonforest): Less than 10 percent stocking by trees of any size, and greater than 5 percent crown cover of species that comprise cover trees.

FORINDCD — Private owner industrial status code. (*Core for all accessible forestland where owner group is private; Core optional for all sampled land where owner group is* private) A code to indicate whether the landowner owns and operates a primary wood processing plant. A primary wood processing plant is any commercial operation that originates the primary processing of wood on a regular and continuing basis. Examples include: pulp or paper mill, sawmill, panel board mill, post or pole mill.

This attribute is retained in this database for informational purposes but is intentionally left blank (null) because of the FIA data confidentiality policy. Users needing this type of information should contact the FIA Spatial Data Services (SDS) group by following the instructions provided at: http://www.fia.fs.fed.us/tools-data/spatial/.

Code	Description
0	Land is not owned by industrial owner with wood processing plant
1	Land is owned by industrial owner with wood processing plant

MAPDEN

Tree density class code. Code that indicates the relative density classification of the condition. Delineation by density class is done only when the less-dense condition is 50 percent or less as dense as the denser condition. Codes other than 1 are used to indicate that tree density is the only factor differentiating two conditions. New in annual inventory.

Code	Description
1	Initial tree density class
2	Density class 2 – density different than density of the condition assigned a tree density class of 1
3	Density class 3 – density different than densities of the conditions assigned tree density classes of 1 and 2

MICRPROP_UNADJ

Microplot proportion unadjusted. The unadjusted proportion, based on the sampling design, of the microplots that are in the condition. The sum of all microplot condition proportions for a plot equals 1.

SLOPE

Slope. The angle of slope, in percent, of the condition. Valid values are 000 through 155 for data collected when PLOT.MANUAL >= 1.0, and 000 through 200 on data collected when PLOT.MANUAL <1.0. When PLOT.MANUAL < 1.0, the field crew measured condition slope by sighting along the average incline or decline of the condition. When PLOT.MANUAL >= 1.0, slope is collected on subplots but no longer collected for conditions. When PLOT.MANUAL >= 1.0, the slope from the subplot representing the greatest percentage of the condition will be assigned as a surrogate. In the event that two or more subplots represent the same amount of area in the condition, the slope from the lower numbered subplot is used.

SUBPPROP_UNADJ

Subplot proportion unadjusted. The unadjusted proportion, based on the sampling design, of the subplots that are in the condition. The sum of all subplot condition proportions for a plot equals 1.

OWNCD — Owner class code. (*Core for all accessible forestland; Core optional for all sampled land.*)A code to indicate the class in which the landowner (at the time of the inventory) belongs. When DESIGNCD = 999, COND.OWNCD may be null.

Code	Description
11	National Forest : Lands administered by USDA Forest Service, National Forest System
12	National Grassland
13	Other Forest Service
21	National Park Service: Lands administered by USDI National Park Service
22	Bureau of Land Management: Lands administered by USDI Bureau of Land Management
23	Fish and Wildlife Service
24	Department of Defense/Energy
25	Other federal
31	State
32	Local (County, Municipal, etc)
33	Other non-federal public
46	Undifferentiated private

OWNGRPCD — Owner group code. (*Core for all accessible forestland and owner group private; Core optional for all sampled land and owner group* private) A broader group of landowner classes. When DESIGNCD = 999, COND.OWNGEPCD may be null.

Code	Description
10	Forest Service (OWNCD 11, 12, 13)
20	Other federal (OWNCD 21, 22, 23, 24, 25)
30	State and local government (OWNCD 31, 32, 33)
40	Private (OWNCD 41, 42, 43, 44, 45,46)

PRESNFCD — Present nonforest code. A code to indicate the kind of land use occurring now for conditions that were previously classified as forest but are now classified as nonforest. Populated COND_STATUS_CD= 2, 3, 4.

Code	Description
11	Crop land
12	Pasture land
16	Low density agro-forest
20	Range land--general
21	Range land--Grass lands
22	Range land--Montane grassland/savannah
25	Range land--Fernland
31	Developed--Cultural
32	Developed--Rights of way
33	Developed--Recreation

	40 Other types of land 41 Naturally nonvegetated
PROP_BASIS	Proportion basis. Valid values are either “SUBP” or “MACR”. This indicates whether the proportion stored in COND.CONDPROP_UNADJ is based on the subplot (SUBP) or on the macroplot (MACR).
RESERVCD	Reserved status code. (*Core for accessible forestland; Core optional for all sampled land*) Reserved land is land that is withdrawn by law(s) prohibiting the management of the land for the production of wood products. Code Description 0 Not reserved 1 Reserved
STDORGCD	Stand origin code. Method of stand regeneration for the trees in the condition. An artificially regenerated stand is established by planting or artificial seeding. Code Description 0 Natural stands 1 Clear evidence of artificial regeneration
STDORGSP	Stand origin species code. The species code for the predominant artificially regenerated species (only when COND.STDORGCD = 1). See appendix F. May be populated for some units when PLOT.MANUAL<1.0.
TRTCD1	Stand Treatment 1 code. A code to indicate the type of stand treatment that has occurred since the last measurement or within the last 5 years for new plots. The area affected by the treatment must be at least 1 acre in size. When PLOT.MANUAL < 1.0, inventories may record treatments occurring within the last 20 years for new plots. New in annual inventory. Code Description 00 No observable treatment. 10 Cutting – The removal of one or more trees from a stand. 20 Site preparation – Clearing, slash burning, chopping, disking, bedding, or other practices clearly intended to prepare a site for either natural or artificial regeneration. 30 Artificial regeneration - Following a disturbance or treatment (usually cutting), a new stand where at least 50% of the live trees present resulted from planting or direct seeding. 40 Natural regeneration – Following a disturbance or treatment (usually cutting), a new stand where at least 50% of the live trees present (of any size) were established through the growth of existing trees and/or natural seeding or sprouting.

50 Other silvicultural treatment – The use of fertilizers, herbicides, girdling, pruning, or other activities (not covered by codes 10-40) designed to improve the commercial value of the residual stand, or chaining, which is a practice used on western woodlands to encourage wildlife forage.

TRTYR1	Treatment year 1. Year in which Stand Treatment 1 is estimated to have occurred. New in annual inventory.
TRTCD2	Stand treatment 2. A code to indicate the type of stand treatment that has occurred since the last measurement or within the last 5 years for new plots. When PLOT.MANUAL < 1.0, inventories may record treatments occurring within the last 20 years for new plots. Use same codes as COND.TRTCD1. New in annual inventory.
TRTYR2	Treatment year 2. Year in which Stand Treatment 2 is estimated to have occurred. New in annual inventory.
TRTCD3	Stand Treatment 3 code. A code to indicate the type of stand treatment that has occurred since the last measurement or within the last 5 years for new plots. When PLOT.MANUAL < 1.0, inventories may record treatments occurring within the last 20 years for new plots. Use same codes as COND.TRTCD1. New in annual inventory.
TRTYR3	Treatment year 3. Year in which Stand Treatment 3 is estimated to have occurred. New in annual inventory.
CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
COND_COUNT	Number of condition classes found on this plot.

PLOT table

PLT_CN — Plot sequence number. Foreign key linking the boundary record to the plot record.

INVYR — Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.

STATECD — "State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.

COUNTYCD — "County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.

PLOT — Phase 2 plot number. An numeric identifier for a plot. Along with PLOT.STATECD and PLOT.COUNTYCD, PLOT may be used to uniquely identify a plot.

CREW_TYPE — Crew type. A code identifying the type of crew measuring the plot. New in annual inventory.

Code	Description
1	Standard field crew
2	QA crew (any QA crew member present collecting data)

DESIGNCD — Plot design code. A code to indicate the type of plot design used to collect the data. For more information refer to appendix B.

Code	Description
1	Annual inventory data
2	Different design specified in notes

ELEV — Elevation. The distance the plot is located above sea level, recorded in feet (NAD 83 datum). Negative values indicate distance below sea level. The PLOT.ELEV is based on fuzzed and swapped plot coordinates.

EXP_FACTOR — The number of acres represented by the plot.

KINDCD — Sample kind code. A code to indicate whether the type of plot installation.

Code	Description
0	Periodic inventory plot
1	Initial installation of a National design plot
2	Remeasurement of previously installed National design plot

3 Replacement of previously installed National design plot

LAT — Latitude. The approximate latitude of the plot in decimal degrees using NAD 83 datum. Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- ½ mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20% of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

LON — Longitude. The approximate longitude of the plot in decimal degrees using NAD 83 datum. Actual plot coordinates cannot be released because of a Privacy provision enacted by Congress in the Food Security Act of 1985. Therefore, this attribute is approximately +/- 1 mile and, for annual inventory data, most plots are within +/- ½ mile. Annual data have additional uncertainty for private plots caused by swapping plot coordinates for up to 20% of the plots. In some cases, the county centroid is used when the actual coordinate is not available.

MANUAL — Manual (field guide) version number. Version number of the Field Guide used to describe procedures for collecting data on the plot. The National FIA Field Guide began with Version 1.0; therefore data taken using the National Field procedures will have PLOT.MANUAL ≥ 1.0. Data taken according to field instructions prior to the use of the National Field Guide have PLOT.MANUAL < 1.0.

MEASYEAR — Measurement year. The year in which the plot was completed. MEASYEAR May differ from INVYR.

MEASMON — Measurement month. The month in which the plot was completed. May be null for periodic inventory.

Code	Description
01	January
02	February
03	March
04	April
05	May
06	June
07	July
08	August
09	September
10	October
11	November
12	December

MEASDAY Measurement day. The day of the month in which the plot was completed. May be null for periodic inventory.

PLOT_STATUS_CD

Plot status code. A code that describes the sampling status of the plot. Null values may be present for periodic inventories.

Code	Description
1	Sampled – at least one accessible forest land condition present on plot
2	Sampled – no accessible forest land condition present on plot
3	Nonsampled

RDDISTCD Horizontal distance to improved road code. The straight-line distance from plot center to the nearest improved road, which is a road of any width that is maintained as evidenced by pavement, gravel, grading, ditching, and/or other improvements. New in annual inventory. National in annual inventory; collected by some units in periodic inventory.

Code	Description
1	100 ft. or less
2	101 ft. to 300 ft
3	301 ft. to 500 ft
4	501 ft. to 1000 ft
5	1001 ft. to 1/2 mile
6	1/2 to 1 mile
7	1 to 3 miles
8	3 to 5 miles
9	Greater than 5 miles

SUBPANEL Subpanel.Subpanel assignment for the plot for those FIA work units using subpaneling. FIA uses a 5-panel system (see PLOT.P2PANEL) to divide plot sampling over a 5- year period. Funding for western FIA work units is only sufficient to allow plot sampling over a 10 year period. Therefore, panels are further divided into subpanels. This attribute is left blank (null) if subpaneling is not used.

WATERCD Water on plot code. Water body less than 1 acre in size or a stream less than 30 feet wide that has the greatest impact on the area within the forest land portion of the four subplots. The coding hierarchy is listed in order from large permanent water to temporary water. New in annual inventory. National in annual inventory; collected by some units in periodic inventory.

Code	Description
0	None - no water sources within the accessible forest land

1 Permanent streams or ponds too small to qualify as noncensus water
2 Permanent water in the form of deep swamps, bogs, marshes without standing trees present and less than 1.0 ac in size, or with standing trees
3 Ditch/canal – human made channels used as a means of moving water, e.g., for irrigation or drainage, which are too small to qualify as noncensus water
4 Temporary streams
5 Flood zones – evidence of flooding when bodies of water exceed their natural banks
9 Other temporary water – specified in plot-level notes.

CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
SRV_CN	Survey sequence number. Foreign key linking the plot record to the survey record.
UNITCD	Survey unit code. Forest Inventory and Analysis survey unit identification number. Always 1 in the islands.

SUBPLOT table

SUBPLOT_CN — Sequence number. A unique sequence number used to identify a subplot record.

PLT_CN — Plot sequence number. Foreign key linking the boundary record to the plot record.

STATECD — "State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.

COUNTYCD — "County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.

PLOT — Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.

ASPECT — Subplot aspect. The direction of slope, to the nearest degree, of the subplot, determined along the direction of slope. If the aspect changes gradually, an average aspect is recorded. If the aspect changes across the subplot but is predominately of one direction, the predominant aspect is recorded . North is recorded as 360. When slope is less than 5 percent, there is no aspect; is recorded as 000.

CONDLIST — Subplot/macroplot condition list. (*Core optional*.) This is a listing of all condition classes located within the 24.0/58.9 ft radius around the subplot/macroplot center. A maximum of four conditions is permitted on any individual subplot/macroplot. For example: 2300 means these conditions (conditions 2 and 3) are on the subplot/macroplot.

MICRCOND — Microplot center condition. Condition number for the condition at the center of the microplot.

POINT_NONSAMPLE_REASN_CD

Point nonsampled reason code. For entire subplots (or macroplots) that cannot be sampled, one of the following reasons is recorded..

Code	Description
01	Outside U.S. boundary – Entire subplot (or macroplot) is outside of the U.S. border.
02	Denied access area – Access to the entire subplot (or macroplot) is denied by the legal owner, or by the owner of the only reasonable route to the subplot (or macroplot).

03 Hazardous situation – Entire subplot (or macroplot) cannot be accessed because of a hazard or danger, for example cliffs, quarries, strip mines, illegal substance plantations, high water, etc.

04 Time limitation – Entire subplot (or macroplot) cannot be sampled due to a time restriction. This code is reserved for areas with limited access, and in situations where it is imperative for the crew to leave before the plot can be completed (e.g., scheduled helicopter rendezvous).

10 Other – Entire subplot (or macroplot) not sampled due to a reason other than one of the specific reasons already listed.

SLOPE — Subplot slope. The angle of slope, in percent, of the subplot, determined by sighting along the average incline or decline of the subplot. If the slope changes gradually, an average slope is recorded. If the slope changes across the subplot but is predominately of one direction, the predominant slope is recorded. Valid values are 0 through 155.

STATUSCD — Subplot/macroplot status code. A code to indicate whether forest land was sampled on the subplot/macroplot or not. May be blank (null) in periodic inventories.

Code	Description
1	Sampled – at least one accessible forest land condition present on subplot
2	Sampled – no accessible forest land condition present on subplot
3	Nonsampled

SUBPCOND — Subplot center condition. Condition number for the condition at the center of the subplot.

WATERDEP — Snow/water depth. The approximate depth in feet of water or snow covering the subplot when data were collected. New in annual inventory.

CYCLE — Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.

SUBCYCLE — Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years

	of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
UNITCD	Survey unit code. Forest Inventory and Analysis survey unit identification number. Always 1 in the islands.

SUBP_COND table

SUBP_COND_CN	Sequence number. Unique code for every record in this table. A unique number used to identify a subplot condition record.
PLT_CN	Plot sequence number. Foreign key linking the boundary record to the plot record.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	"State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
COUNTYCD	"County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.
PLOT	Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
SUBP	Subplot number. The number assigned to the subplot. (number values of 1 through 4).
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
MACRCOND_PROP	Macroplot-condition proportion. Proportion of this macroplot in this condition.
MICRCOND_PROP	Microplot-condition proportion. Proportion of this microplot in this condition.
SUBPCOND_PROP	

	Subplot-condition proportion. Proportion of this subplot in this condition.
CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
UNITCD	Survey unit code. Forest Inventory and Analysis survey unit identification number. Always 1 in the islands.

TREE table

TREE_CN	Sequence number. A unique number used to identify a tree record.
PLT_CN	Plot sequence number. Foreign key linking the boundary record to the plot record.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	“State code”. A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
COUNTYCD	“County code”. The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.
PLOT	Phase 2 plot number. An numeric identifier for a plot. Along with PLOT.STATECD and PLOT.COUNTYCD, PLOT may be used to uniquely identify a plot.
SUBP	Subplot number. The number assigned to the subplot. (number values of 1 through 4).
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
TREE	Tree record number. A number used to uniquely identify a tree on a subplot. Tree numbers can be used to track trees when DESIGNCD is the same between inventories.
LIVEDEAD	Identifies whether the tree is live or dead.
SPCD	Species code. An FIA tree species code. Refer to appendix C for codes.

DIA	Current diameter. The current diameter (in inches) of the sample tree at the point of diameter measurement. TREE.DIA for live trees contains the measured value. TREE.DIA for cut and dead trees presents problems associated with uncertainty of when the tree was cut or died as well as structural deterioration of dead trees. For additional information about where on the tree diameter is measured, see TREE.DIAHTCD or TREE.HTDMP.
HT	Total height. (*Core phase 2: greater than or equal to 5.0 inch trees; Core optional phase 2: greater than or equal to 1.0 inch live trees and standing dead trees. Core phase 3: greater than or equal to 1.0 inch live trees*) The total length (height) of a sample tree (in feet) from the ground to the tip of the apical meristem. The total length of a tree is not always its actual length. If the main stem is broken, the actual length is measured or estimated and the missing piece is added to the actual length to estimate total length. The amount added is determined by measuring the broken piece if it can be located on the ground; otherwise it is estimated.
VOLCFGRS	Gross cubic-foot volume. The total volume of wood in the central stem of sample tree 5.0 inches diameter or larger, from a 1-foot stump to a minimum 4-inch top DOB, or to where the central stem breaks into limbs all of which are less than 4.0 inches DOB. This is a per tree value and must be multiplied by TREE.TPA_UNADJ to obtain per acre information. Trees with TREE.DIA less than 5.0 inches have null in this field. All trees measured after 1998 with TREE.DIA 5.0 inches or larger (including dead and cut trees) have entries in this field. Includes rotten, missing and form cull (volume loss due to rotten, missing, and form cull defect has not been deducted).
VOLCFNET	Net cubic-foot volume. The net volume of wood in the central stem of a sample tree 5.0 inches diameter or larger, from a 1-foot stump to a minimum 4-inch top DOB, or to where the central stem breaks into limbs all of which are less than 4.0 inches DOB. This is a per tree value and must be multiplied by TREE.TPA_UNADJ to obtain per acre information. Trees with TREE.DIA less than 5.0 inches have null in this field. All trees measured after 1998 with TREE.DIA 5.0 inches or larger (including dead and cut trees) will have entries in this field. Does not include rotten, missing, and form cull (volume loss due to rotten, missing, and form cull defect has been deducted).
DRYBIOT	Total gross biomass oven dry weight. The total aboveground biomass of a sample tree 1.0 inch diameter or larger, including all tops and limbs (but excluding foliage). This is a per tree value and must be multiplied by TREE.TPA_UNADJ to obtain per acre information. Calculated in oven dry pounds per tree. This field should have an entry if DIA is 1.0 inch or larger, regardless of TREE.STATUSCD or TREE.TREECLCD; zero otherwise. For dead

	or cut trees, this number represents the biomass at the time of death or last measurement.
TPA_UNADJ	Trees per acre unadjusted. The number of trees per acre that the sample tree theoretically represents based on the sample design. For fixed radius plots taken with the mapped plot design (PLOT.DESIGNCD =1), TREE.TPA_UNADJ is set to a constant derived from the plot size and equals 6.018046 for trees sampled on subplots, 74.965282 for trees sampled on microplots, and 0.999188 for trees sampled on macroplots. Variable radius plots were often used in earlier inventories, so the value in TREE**.**TPA_UNADJ decreases as the tree diameter increases. Based on the procedures described in Bechtold and Patterson (2005), this attribute can be adjusted using factors stored on the POP_STRATUM table to derive population estimates
ACTUALHT	Actual height of tree. (Core phase 2: greater than or equal to 5.0-inch live and standing dead trees [with broken or missing tops]; Core optional phase 2: greater than or equal to 1.0-inch live trees [with broken or missing tops] and greater than or equal to 5.0-inch live standing dead trees [with broken or missing tops]; Core phase 3: greater than or equal to 1.0-inch live trees [with broken or missing tops]) The length (height) of the tree to the nearest foot from ground level to the highest remaining portion of the tree still present and attached to the bole. Recorded on trees with broken or missing tops.
AGENTCD	Cause of death (agent) code. (*Core: all remeasured plots when the tree was alive at the previous visit and at revisit was dead or removed OR the tree was standing dead at the previous inventory and the tree is ingrowth, through growth, or a missed live tree; Core optional: all initial plot visits when tree qualifies as a mortality tree*) When PLOT.MANUAL >= 1.0, this variable will be collected on only dead and cut trees. When PLOT.MANUAL , 1.0, this variable was collected on all trees (live, dead, and cut). Cause of damage was recorded for live trees if the presence of damage or pathogen activity was serious enough to reduce the quality or vigor of the tree. When a tree was damaged by more than one agent, the most severe damage was coded. When no damage was observed on a live tree, 00 was recorded. Damage recorded for dead trees was the cause of death. When the cause of death could not be determined for a tree, 99 was recorded. Each FIA program records specific codes that may differ from one State to the next. These codes fall within the ranges listed below. For the specific codes used in a particular State, contact the FIA program responsible for that State.

Code	Description
00	No agent recorded
10	Insect
20	Disease
30	Fire
40	Animal
50	Weather
60	Vegetation (e.g., competition or vines)
70	Unknown/not sure/other – includes death from human activity not related to silvicultural or landclearing activity (accidental, random, etc). TREE NOTES required.
80	Silvicultural or landclearing activity (death caused by harvesting or other silvicultural activity, including girdling, chaining, etc., or to landclearing activity.

AZIMUTH

Azimuth. The direction, to the nearest degree, from subplot center (microplot center for saplings) to the center of the base of the tree (geographic center for multi-stemmed woodland species). Due north is represented by 360 degrees. This attribute is populated on live and standing dead trees in a forest condition and measured on one of the four subplots of the national plot. It may be populated on other tree records.

CCLCD

Crown class code. Primarily indicates the amount of sunlight received as opposed to the conventional "crown position" found in forestry textbooks.

Code	Description
1	Open grown: Trees with crowns that have received full light from above and from all sides throughout all or most of their life, particularly during early development.
2	Dominant: Trees with crowns extending above the general level of the canopy and receiving full light from above and partly from the sides; larger than the average trees in the stand, and with crowns well developed, but possibly somewhat crowded on the sides.
3	Codominant: Trees with crowns forming part of the general level of the crown cover and receiving full light from above, but comparatively little from the side. Usually with medium crowns more or less crowded on the sides.
4	Intermediate: Trees shorter than those in the preceding two classes, with crowns either below or extending into the canopy formed by the dominant and codominant trees, receiving little direct light from above, and none from the sides; usually with small crowns very crowded on the sides.

	5 Overtopped: Trees with crowns entirely below the general canopy level and receiving no direct light either from above or the sides.
CR	Compacted crown ratio. The percent of the tree bole supporting live, healthy foliage (the crown is ocularly compacted to fill in gaps) when compared to total length. When PLOT.MANUAL < 1.0 the variable may have been a code. The code was converted to the midpoint of the ranges represented by the codes, and is now recorded as a percentage.
DAMLOC1	Damage location 1. (*Core prior to field guide 1.7; Core optional beginning with field guide 1.7*) A code to indicate where damage (meeting or exceeding a severity threshold, as defined in the field guide) is present on the tree. New in annual inventory.

Code	Description
0	No damage
1	Roots (exposed) and stump (up to 12 inches from ground level)
2	Roots, stump, and lower bole
3	Lower bole (lower half of bole between stump and base of live crown)
4	Lower and upper bole
5	Upper bole (upper half of bole between stump and base of live crown)
6	Crownstem (main stem within the live crown)
7	Branches (> 1 inch diameter at junction with main stem and within the live crown)
8	Buds and shoots of current year
9	Foliage

DAMTYP1	Damage type 1. (*Core prior to field guide 1.7; Core optional beginning with field guide 1.7*) A code to indicate the kind of damage (meeting or exceeding a severity threshold, as defined in the field guide) present. New in annual inventory.

Code	Description
01	Canker, gall
02	Conk, fruiting body, or sign of advanced decay
03	Open wound
04	Resinosis or gumosis
05	Crack or seam
11	Broken bole or broken root within 3 feet of bole
12	Broom on root or bole
13	Broken or dead root further than 3 feet from bole
20	Vines in the crown

Code	Description
21	Loss of apical dominance, dead terminal
22	Broken or dead branches
23	Excessive branching or brooms within the live crown
24	Damaged shoots, buds, or foliage
25	Discoloration of foliage
31	Other

DAMSEV1 Damage severity 1. A code to indicate how much of the tree is affected. Valid severity codes vary by damage type and damage location and must exceed a threshold value, as defined in the field guide.

Code	Description
0	01 to 09 % of location affected
1	10 to 19 % of location affected
2	20 to 29 % of location affected
3	30 to 39 % of location affected
4	40 to 49 % of location affected
5	50 to 59 % of location affected
6	60 to 69 % of location affected
7	70 to 79 % of location affected
8	80 to 89 % of location affected
9	90 to 99 % of location affected

DAMLOC2 Damage location 2. (*Core prior to field guide 1.7; Core optional beginning with field guide 1.7*) A code to indicate where secondary damage (meeting or exceeding a severity threshold, as defined in the field guide) is present. Use same codes as TREE.DAMLOC1. New in annual inventory.

DAMTYP2 Damage type 2. (*Core prior to field guide 1.7; Core optional beginning with field guide 1.7*) A code to indicate the kind of secondary damage (meeting or exceeding a severity threshold, as defined in the field guide) present. Use same codes as TREE.DAMTYP1. New in annual inventory.

DAMSEV2 Damage severity 2. (*Core prior to field guide 1.7; Core optional beginning with field guide 1.7*) A code to indicate how much of the tree is affected by the secondary damage. Valid severity codes vary by damage type and damage location and must exceed a threshold value, as defined in the field guide. Use same codes as TREE.DAMSEV1. New in annual inventory.

DECAYCD Decay class code. A code to indicate the stage of decay in a standing dead tree. New in annual inventory.

Code	Description
1	All limbs and branches are present; the top of the crown is still present; all bark remains; sapwood is intact, with minimal decay; heartwood is sound and hard.

2 There are few limbs and no fine branches; the top may be broken; a variable amount of bark remains; sapwood is sloughing with advanced decay; heartwood is sound at base but beginning to decay in the outer part of the upper bole.
3 Only limb stubs exist; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay in upper bole and is beginning at the base.
4 Few or no limb stubs remain; the top is broken; a variable amount of bark remains; sapwood is sloughing; heartwood has advanced decay at the base and is sloughing in the upper bole.
5 No evidence of branches remains; the top is broken; less than 20% of the bark remains; sapwood is gone; heartwood is sloughing throughout.

DIACHECK — Diameter check code. A code to indicate the reliability of the diameter measurement. New in annual inventory.

Code	Description
0	Diameter accurately measured.
1	Diameter estimated.
2	Diameter measured at different location than previous measurement (remeasurement trees only).
5	Diameter modeled in the office (used with periodic inventories)

Note: If both codes 1 and 2 apply, code 2 is used.

DIST — Horizontal distance. The horizontal distance in feet from subplot center (microplot center for saplings) to the center of the base of the tree (geographic center for multi-stemmed woodland species). This attribute is populated on live and standing dead trees in a forest condition.

HTCD — Height method code. (*Core phase 2: greater than or equal to 5.0 inch trees; Core optional phase 2: greater than or equal to 1.0 inch live trees and standing dead trees. Core phase 3: greater than or equal to 1.0 inch live trees*) A code to indicate how length (height) was determined.

Code	Description
1	Field measured (total and actual length)
2	Total length visually estimated in the field, actual length measured.
3	Total and actual lengths are visually estimated

HRDWD_CLUMP_CD

Hardwood clump code. A code sequentially assigned to each hardwood clump within each species as they are found on a subplot. Up to 9 hardwood clumps can be identified and coded within each species on each subplot. A clump is defined as having 3 or more live stems originating from a common point on the root system. Western woodland hardwood species are not evaluated for clump code. Clump code data is used to adjust stocking estimates since trees growing in clumps contribute less to stocking than do individual trees. Only collected by certain FIA units (POP_PLOT_STRATUM_ASSIGN.RSCD = 26 or 27).

STATUSCD — Status code. Identifies whether the sample tree is live, cut, or dead at the time of measurement. Includes dead and cut trees, which are required to estimate aboveground biomass and net annual volume for growth, mortality, and removals. Note: New and replacement plots use only codes 1 and 2. This code is not used when querying data for change estimates.

Code	Description
0	No status
1	Live tree
2	Dead tree
3	Removed - Cut and removed by direct human activity related to harvesting, silviculture or land clearing. This tree is assumed to be utilized.

TREECLCD — Tree class code. Tree class code. A code used to indicate the general quality of the tree. In annual inventory, this is the tree class for both live and dead trees at the time of current measurement. In periodic inventory, for cut and dead trees, this is the tree class of the tree at the time it died or was cut. Therefore, cut and dead trees collected in periodic inventory can be coded as growing stock.

Code	Description
2	Growing stock: All live trees of commercial species that meet minimum merchantability standards. In general, these trees have at least one solid 8-foot section, are reasonably free of form defect on the merchantable bole, and at least 34 percent or more of the volume is merchantable. For the California, Oregon, and Washington inventories, a 26 percent or more merchantable volume standard is applied, rather than 34 percent or more. Excludes rough or rotten cull trees.
3	Rough cull: All live trees that do not now, or prospectively, have at least one solid 8-foot section, reasonably free of form defect on the merchantable bole, or have 67 percent or more of the merchantable volume cull; and more than half of this cull is due to sound dead wood cubic-foot loss or severe form defect volume loss. For the California, Oregon, and Washington inventories, 75 percent or more cull, rather than

	67 percent or more cull, applies. This class also contains all trees of noncommercial species, or those species where SPGRPCD equals 23 (western woodland softwoods), 43 (eastern noncommercial hardwoods), or 48 (western woodland hardwoods).. For dead trees, this code indicates that the tree is salvable (sound).
4	Rotten cull: All live trees with 67 percent or more of the merchantable volume cull, and more than half of this cull is due to rotten or missing cubic-foot volume loss. California, Oregon, and Washington inventories use a 75 percent cutoff. For dead trees, this code indicates that the tree is nonsalvable (not sound).

UNCRCD	Uncompacted live crown ratio. (*Core optional phase 2: greater than or equal to 5.0-inch live trees; Core phase 3: greater than or equal to 1.0-inch live trees*) Percentage determined by dividing the live crown length by the actual tree length. When PLOT.MANUAL < 3.0 the variable was a code. The code was converted to the midpoint of the ranges represented by the codes, and is now recorded as a percentage.
CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
UNITCD	Survey unit code. Forest Inventory and Analysis survey unit identification number. Always 1 in the islands.

SEEDLING table

SEEDLING_CN	Sequence number. A unique number used to easily identify a seedling
PLT_CN	Plot sequence number. Foreign key linking the boundary record to the plot record.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	“State code”. A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
COUNTYCD	“County code”. The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.
PLOT	Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
SUBP	Subplot number. The number assigned to the subplot. (number values of 1 through 4).
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
SPCD	Species code. An FIA species code. Refer to appendix F for codes.
TREECOUNT	Tree count (for seedlings). Indicates the number of seedlings (DIA < 1.0 inch) present on the microplot. Conifer seedlings are at least 6 inches tall and hardwood seedlings are at least 12 inches tall. When PLOT.MANUAL <2.0, the national core procedure was to record the actual seedling count up to six seedlings and then record 6+ if more than six seedlings were present.. If PLOT.MANUAL <

	2.0 and SEEDLING.TREECOUNT is null, then a value of 6 in SEEDLING.TREECOUNT_CALC represents 6 or more seedlings.
TPA_UNADJ	Trees per acre unadjusted. The number of seedlings per acre that the seedling count theoretically represents based on the sample design. For fixed radius plots taken with the mapped plot design (PLOT.DESIGNCD =1), SEEDLING.TPA_UNADJ equals 74.965282 times the number of seedlings counted. For plots taken with other sample designs, this attribute may be blank (null). Based on the procedures described in Bechtold and Patterson (2005), this attribute can be adjusted using factors stored on the POP_STRATUM table to derive population estimates.
CYCLE	Inventory cycle number. Identifies the cycle number for the inventory data. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory.
UNITCD	Survey unit code. Forest Inventory and Analysis survey unit identification number. Always 1 in the islands.

SURVEY table

SURVEY_CN	Sequence number. A unique sequence number used to identify a survey record.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	"State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
STATEAB	State abbreviation. The two-character State abbreviation. Refer to appendix B.
STATENM	State name. Refer to appendix B.
NOTES	Notes. An optional item where notes about the inventory may be stored.
P3_OZONE_IND	Phase 3 ozone indicator. Values are Y (yes) and N (no). If Y, then the Survey is for a P3 ozone inventory. If N, then the Survey is not for a P3 ozone inventory.
CYCLE	Inventory cycle number. For example, a 4 shows the data came from the fourth inventory of that State. A cycle number greater than 1 does not necessarily mean that information for previous cycles resides in the database.
SUBCYCLE	Inventory subcycle number. For an annual inventory that takes n years to measure all plots, subcycle shows in which of the n years of the cycle the data were measured. Subcycle is 0 for a periodic inventory. Subcycle 99 may be used for plots that are not included in the estimation process.

VEG VIST table

VEG_VISIT CN — A unique number used to identify an individual record within the table. Other tables will reference this as VVT_CN

PLT_CN — Plot sequence number. Foreign key linking the boundary record to the plot record.

INVYR — Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.

STATECD — "State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.

COUNTYCD — "County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.

PLOT — Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.

VEG_QA_STATUS

Vegetation quality assurance status. The code corresponding to the type of vegetation measurement conducted.

Code	Description
1	Standard field production plot
2	Cold Check
3	Reference plot (off grid)
4	Training/Practice plot (off grid)
5	Botched Plot file (disregard during data processing)
6	Blind Check
7	Hot Check (production plot)

VEG_KINDCD — Vegetation sample kind code.

Code	Description
1	Initial P3 VEG plot establishment
2	Remeasure of previously established P3 VEG plot
3	Replacement P3 VEG plot

VEG_MANUAL — Vegetation manual. Field guide version used.

TRACE_COVER_ALLOWED

Trace cover allowed.

Code	Description
0	Trace cover value (0.01%) not allowed, VEG_MANUAL v2.0 and earlier

	1	Trace cover value (0.01%) allowed for species canopy cover records (VEG_MANUAL v 2.0.1 and later)

VEG_MEASYEAR Vegetation measurement year. Year in which the plot was measured

VEG_MEASMON Vegetation measurement month. Month in which the plot was measured.

VEG_MEASDAY Vegetation measurement day. Day on which the plot was measured.

VEG_CREW_TYPE Vegetation crew type. The code corresponding to the type of crew measuring the vegetation diversity and structure.

Code	Description
1	Regular field crew
2	QA crew (any QA crew member present collecting data)

VEG_SAMPLE_BASIS Vegetation sample basis.

Code	Description
1	Data collected across entire subplot where % Accessible forest conditions is greater or equal to 50% . May include non-forest, hazardous, or access denied conditions.
2	Data collected on accessible forested conditions only (VEG_MANUAL 2.0 and higher)

VEG_PLOT_SPECIES table

VEG_PLOT_SPECIES_CN
A unique number used to identify an individual record within the table. Other tables will reference this as VPS_CN

PLT_CN — Plot sequence number. Foreign key linking the seedling record to the plot record.

VVT_CN — A unique number used to identify an individual record within the VEG VIST table.

INVYR — Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.

STATECD — "State code". A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.

COUNTYCD — "County code". The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.

PLOT — Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.

VEG_SPCD — Vegetation species code. Final edited species code conforming to the NRCS PLANTS database.

VEG_FLDSPCD — Vegetation field species code. Field recorded vegetation species code for each vascular plant species found rooted in or overhanging a subplot. Codes must be the standardized codes in the Natural Resource Conservation Service (NRCS) PLANTS database January 2000 version to represent species, genus, or unknown plants. Identification to species only is expected. However, if subspecies information is known, the appropriate NRCS code may be entered.

UNIQUE__SP_NBR
Unique species number. Identifies the number of species occurrences within each NRCS genus or unknown code. For example, 2 unidentifiable CAREX species would be entered as 2 separate records with differing Unique Species Numbers to show that they are not the same species.

SPECIMEN_COLLECTED

Specimen officially collected. Y or N (Yes or No) value indicating whether a specimen sample was collected.

Code	Description
0	No, a specimen was not collected
1	Yes, a specimen was collected

SPECIMEN_LABEL_NBR

Specimen label number. For any unknown specimen collected, the corresponding specimen label number.

SPECIMEN_NOT_COLLECTED_REASON

Specimen not collected reason. If VEG_FLDSPCD is an NRCS genus or unknown code and a specimen is not collected, this code provides the reason.

Code	Description
01	Species is locally sparse
02	Species has < 1% canopy cover on the subplot and no mature foliage or reproductive parts are present
03	Hazardous situation
04	Time limitation
05	Already collected with previous entry of genus or unknown code with the same unique species number
06	Specimen collected for immediate/local identification
10	Other (explain in notes)

SPECIMEN_RESOLVED

Specimen resolved. If VEG_FLDSPCD code type is "unknown",set to "N" until plant voucher data loaded; set to null if code type="species"; set to "Y" upon NIMS_VEG_UNKNOWN_UPDATE table load for specific record.

VEG_SUBPLOT table

VEG_SUBPLOT_SPP_CN	A unique number used to identify an individual record within the table.
PLT_CN	Plot sequence number. Foreign key linking the seedling record to the plot record.
VVT_CN	A unique number used to identify an individual record within the VEG VIST table.
VSB_CN	A unique number used to identify an individual record within the table.
VPS_CN	A unique number used to identify an individual record within the VEG_PLOT_SPECIES table.
INVYR	Inventory year. The year that best represents when the inventory data were collected. Note that INVYR is not necessarily the same as MEASYEAR.
STATECD	“State code”. A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
COUNTYCD	“County code”. The identification for an island within a larger Island Group (STATECD). May refer to states within independent republics. Refer to appendix B for codes.
PLOT	Phase 2 plot number. An numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
SUBP	Subplot number. The number assigned to the subplot. (number values of 1 through 4).
VEG_SPCD	Vegetation species code. Final edited species code conforming to the NRCS PLANTS database.
VEG_FLDSPCD	Vegetation field species code. Field recorded vegetation species code for each vascular plant species found rooted in or overhanging a subplot. Codes must be the standardized codes in the Natural Resource Conservation Service (NRCS) PLANTS database January 2000 version to represent species, genus, or unknown plants. Identification to species only is expected. However, if subspecies information is known, the appropriate NRCS code may be entered.

UNIQUE__SP_NBR

Unique species number. Identifies the number of specie occurrences within each NRCS genus or unknown code. For example, 2 unidentifiable CAREX species would be entered as 2 separate records with differing Unique Species Numbers to show that they are not the same species.

SP_CANOPY_COVER_TOTAL

Total canopy cover for all layers. Estimated total canopy cover of the foliage of all vascular plants in all layers within the accessible forested conditions on the subplot. A rapid canopy cover estimate is made, ignoring overlap among species.

SP_CANOPY_COVER_LAYER_1_2

Total canopy cover layers 1 and 2. Estimated total canopy cover of the foliage of all vascular plants in the lowest veg canopy layers within the accessible forested conditions on the subplot. A rapid canopy cover estimate is made, ignoring overlap among species.

SP_CANOPY_COVER_LAYER_3

Total canopy cover layer 3. Estimated total canopy cover of the foliage of all vascular plants in the intermediate veg canopy layers within the accessible forested conditions on the subplot. A rapid canopy cover estimate is made, ignoring overlap among species.

SP_CANOPY_COVER_LAYER_4

Total canopy cover layer 4. Estimated total canopy cover of the foliage of all vascular plants in the highest veg canopy layers within the accessible forested conditions on the subplot. A rapid canopy cover estimate is made, ignoring overlap among species.

COND_ISLAND table

STATECD	State code. A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
PLOT	Plot number. A numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
DOMSPC1	The TREE SPECIES with the greatest plurality of stocking for all live trees in the condition class that are not overtopped.
DOMSPC2	The TREE SPECIES with the second greatest plurality of stocking for all live trees in the condition class that are not overtopped.
DOMSPC3	The TREE SPECIES with the third greatest plurality of stocking for all live trees in the condition class that are not overtopped.
SLPSHP	The slope shape over the condition class under consideration. 00=Flat 10=Concave 20=Convex
SLPPOS	The slope position over the condition class under consideration. 00=Flat 10=Uppershoulder 20=Midslope 30=Footslope 40=Valleybottom 50=Ridgetop
QMD	Quadratic mean diameter for the condition.

SLBIOMASS	Temp. biomass field.

TREE_ISLAND table

STATECD	State code. A numeric code that identifies an Island Group. Currently there are seven groups including American Samoa, Federated States of Micronesia, Guam, Northern Mariana Islands, Palau, Marshall Islands, and Hawaii. Refer to appendix B.
PLOT	Plot number. A numeric identifier for a plot. Along with STATECD and COUNTYCD, PLOT may be used to uniquely identify a plot.
SUBP	Subplot number. The number assigned to the subplot. (number values of 1 through 4).
TREE	Tree record number. A number used to uniquely identify a tree on a subplot. Tree numbers can be used to track trees when DESIGNCD is the same between inventories.
CONDID	Condition class number. Unique identifying number assigned to each condition on a plot. A condition is initially defined by condition class status. Differences in reserved status, owner group, forest type, stand-size class, regeneration status, and stand density further define condition for forest land. Mapped nonforest conditions are also assigned numbers. At the time of the plot establishment, the condition class at plot center (the center of subplot 1) is usually designated as condition class 1. Other condition classes are assigned numbers sequentially at the time each condition class is delineated. On a plot, each sampled condition class must have a unique number that can change at remeasurement to reflect new conditions on the plot.
SLOPE_DIST	Slope distance. The slope distance in feet from subplot center (microplot center for saplings) to the center of the base of the tree (geographic center for multi-stemmed woodland species). This attribute is populated on live and standing dead trees in a forest condition.
UPPER_DIA	The diameter of the main stem on the upper bole. The upper bole diameter is measured with a relaskop at the point where the main stem tapers to 4 inches or greater at a point at least 3 ft. above DIAHT. Measured to the nearest inch for all trees >= 5.0 in DBH on the 24 ft. radius subplots.
UPPER_DIA_HT	The height where the upper main stem diameter is measured. The main stem diameter is at least 4 in. at this height. Measured to the nearest foot.

BRANCH_FORM	Describes branching charateristic of the species. 1=conifer-like 2=coconut tree-like 3=broadleaf with minimal branching 4=broadleaf with multiple vertical branching above stump 5=broadleaf with multiple horizontal branching above stump 6=horizontal mainstem with vertical branching.
ROOT_SYSTEM	Root system: describes prop (or stilted roots), buttressed roots, and various forms of aerial rooting systems. 0=normal roots 1=prop or stilted 2=buttressed roots
STILT_ROOT_DIA1	Diameter of the entire visible stilted rooting system at its greatest width as viewed from above.
STILT_ROOT_DIA2	Diameter of the entire visible stilted rooting system at a perpendicular to STILT_ROOT_DIA1.
STILT_DENS	Stilt root relative density. 1=few stilts 2=moderate stilting 3=abundant stilt roots
NO_BUTTRESS	The number of buttressed roots.
ROOT_HT	The height of the stilted or buttressed root system to the nearest foot, from ground level to the highest point where the stilts or buttresses protrude from the bole of the tree.
AERIAL_ROOTS	The density of aerial roots. 0=none 1=few aerial roots 2=moderate density of aerial roots 3=abundant aerial roots
EPIPHYTE	The extent of epiphyte loading for all live trees > 1.0 in. d.b.h. "Epiphyte" is defined as a plant that uses a tree for support, but does not draw nourishment from it. Includes vines and lianas. 0=No visible epiphytes; None 1=Light epiphytes; < 50% of the branches or bole is loaded 2=Heavy epiphytes; > 50% of the branches or bole loaded
AGENT1CD	Primary damaging agent. 10 Insects 20 Disease 30 Fire 40 Animal

50 Weather
60 Vegetation (suppression, competition, vines, etc)
70 Unknown/not sure/other (include notes
80 Human-caused (cultural, logging, accidental, etc)
90 Physical (hit by falling tree, rockslides, etc)

AGENT2CD	Secondary damaging agent. Same codes as AGENT1CD.
NOTES	Notes about the tree.
PRIDAM	Priority damage type. Includes damage types of special interest to island foresters. E.g., Rhinocerous beetle, coconut viroid….
PRIDAMSEV	Priority damage severity. Expressed as percentage and coded in classes.
TAPERANGLE	Taper angle of the bole (degrees).
TREEBA	Basal area of the tree (square feet).
VOLCFLOW	Lower bole volume (cubic feet).
VOLCFMID	Middle bole volume (cubic feet).
VOLCFHI	Upper bole volume (cubic feet).
DRYBIOTS	Dry biomass for the total stem, excluding branches and foliage (lbs.).
TREE_NOTES	Notes about the tree.
DIAHTCD	Height to lower diameter (feet), typically d.b.h. (4.5 feet).
DRC	Diameter at root collar (inches).

Literature Cited

Bechtold, W.A.; Patterson, P.L., editors. 2005. The enhanced Forest Inventory and Analysis program – national sampling design and estimation procedures. Gen. Tech. Rep. SRS-80. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 85 p.

Cleland, D.T.; Freeouf, J. A., Keys, J.E.; Nowacki, G.J.; Carpenter, C.A.; and McNab, W.H. 2005. Ecological Subregions: Sections and Subsections for the conterminous United States. (A.M. Sloan, technical editor). Washington, DC: U.S. Department of Agriculture, Forest Service, presentation scale 1:3,500,000; colored. Also available on CD-ROM consisting of GIS coverage in ArcINFO format.

Hansen, Mark H.; Frieswyk, Thomas; Glover, Joseph F.; Kelly, John F. 1992. The Eastwide forest inventory data base: users manual. Gen. Tech. Rep. NC-151. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 48 p.

Hanson, E.J.; Azuma, D.L.; Hiserote, B.A. 2002. Site index equations and mean annual increment equations for Pacific Northwest Research Station Forest Inventory and Analysis inventories, 1985-2001. Research Note, PNW-RN-533. Portland, OR: U.S. Department of Agriculture, Forest Service. 24 p.

Hawksworth, Frank G. The 6-class dwarf mistletoe rating system. Gen. Tech. Rep. RM-48. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station; 1979. 7 p.

MacLean C.D.; Bolsinger, C.L. 1974. Stockability equations for California forest land. Research Note, PNW-RN-233. Portland, OR: U.S. Department of Agriculture, Forest Service. 10 p.

Miles, Patrick D.; Brand, Gary J.; Alerich, Carol L.; Bednar, Larry F.; Woudenberg, Sharon W.; Glover, Joseph F.; Ezzell, Edward N. 2001. The forest inventory and analysis database: database description and users manual version 1.0. Gen. Tech. Rep. NC-218. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 130 p.

Woudenberg, Sharon W.; Farrenkopf, Thomas O. 1995. The Westwide forest inventory data base: user's manual. Gen. Tech. Rep. INT-GTR-317. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 67 p.

U.S. Department of Agriculture, Forest Service. 2003. Forest inventory and analysis national core field guide, volume 1: field data collection procedures for phase 2 plots, version 1.7. U.S. Department of Agriculture, Forest Service, Washington Office. Internal report. On file with: U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis, 201 14th St., Washington, D.C., 20250.

U.S. Department of Agriculture, Forest Service. 2004. Forest inventory and analysis national core field guide, volume 1: field data collection procedures for phase 2 plots, version 2.0. U.S. Department of Agriculture, Forest Service, Washington Office. Internal report. On file with: U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis, 201 14th St., Washington, D.C., 20250.

Appendix A— State codes and names (Island Groups)

STATECD	STATENM
15	Hawaii
60	American Samoa
64	Federated States of Micronesia
66	Guam
68	Marshall Islands
69	Northern Mariana Islands
70	Palau
74	US Minor Outlying Islands

Appendix B— Island code and names (COUNTYCD)
from: County-Equivalent Entities of the U.S. Possessions
http://www.itl.nist.gov/fipspubs/co-codes/states.htm

60 American Samoa
010 Eastern
020 Manu'a
030 Rose Island
040 Swains Island
050 Western

64 Federated States of Micronesia
002 Chuuk
005 Kosrae
040 Pohnpei
060 Yap

66 Guam
010 Guam

68 Marshall Islands
007 Ailinginae
010 Ailinglaplap
030 Ailuk
040 Arno
050 Aur
060 Bikar
070 Bikini
073 Bokak
080 Ebon
090 Enewetak
100 Erikub
110 Jabat
120 Jaluit
130 Jemo
140 Kili
150 Kwajalein
160 Lae
170 Lib
180 Likiep
190 Majuro
300 Maloelap
310 Mejit
320 Mili
330 Namorik
340 Namu
350 Rongelap
360 Rongrik
385 Toke
390 Ujae
400 Ujelang
410 Utrik
420 Wotho
430 Wotje

69 Northern Mariana Islands
085 Northern Islands
100 Rota
110 Saipan
120 Tinian

70 Palau
002 Aimeliik
004 Airai
010 Angaur
050 Hatoboheit
100 Kayangel
150 Koror
212 Melekeok
214 Ngaraard
218 Ngarchelong
222 Ngardmau
224 Ngatpang
226 Ngchesar
227 Ngernmlengui
228 Ngiwal
350 Peleliu
370 Sonsorol

74 U.S. Minor Outlying Islands
050 Baker Island
100 Howland Island
150 Jarvis Island
200 Johnston Island
250 Kingman Reef
300 Midway Islands
350 Navassa Island
400 Palmyra Atoll
450 Wake Island

Appendix C – Forest Type Codes And Names

FORTYPCD	DESCRIPTION
1	Strand or halophytic vegetation
2	Mangrove swamps
3	Lowland tropical rainforest
4	Montane rainforest
5	Cloud forest
6	Mesophytic or moist forest
7	Xerophytic
8	Agroforestry
9	Plantations

Appendix D—Tree Species Codes

SPCD	Scientific Name
10	*Annona cherimola*
11	*Couroupita guianensis*
12	*Crotalaria longirostrata*
13	*Dypsis lutescens*
15	*Euphorbia neriifolia*
16	*Ficus rubiginosa*
17	*Gliricidia sepium*
18	*Jacaranda mimosifolia*
19	*Macaranga tanarius*
20	*Phoenix canariensis*
21	*Polyscias scutellaria*
22	*Ptychosperma macarthuri*
23	*Sida fallax*
24	*Suriana maritima*
25	*Syzygium malaccense*
49	*Acacia auriculiformis*
50	*Cinnamomum camphora*
60	*Ailanthus altissima*
61	*Eucalyptus camaldulensis*
62	*Fraxinus americana*
63	*Casuarina glauca*
64	*Piscidia piscipula*
65	*Syzygium cumini*
100	*Aglaia mariannensis*
101	*Aidia cochinchinensis*
102	*Albizia lebbeck*
103	*Aleurites trisperma*
104	*Anacardium occidentale*
105	*Annona reticulata*
106	*Antidesma bunius*
107	*Araucaria columnaris*
108	*Araucaria heterophylla*
109	*Arenga pinnata*
110	*Artocarpus mariannensis*
111	*Araucaria excelsa*
112	*Barringtonia racemosa*
113	*Bauhinia monandra*
114	*Caesalpinia sappan*
115	*Caryota urens*
116	*Cassia javanica*
117	*Casuarina litorea*
118	*Catalpa longissima*
119	*Ceiba pentandra*
120	*Cerbera dilatata*
121	*Citrus aurantium*
122	*Citrus grandis*
123	*Triphasia trifolia*
124	*Citrus limon*
125	*Citrus macroptera*
126	*Citrus medica*
127	*Claoxylon marianum*
128	*Coccoloba uvifera*
129	*Coffea arabica*
130	*Coffea liberica*
131	*Cordia dichotoma*
132	*Crescentia alata*
133	*Cryptomeria japonica*
134	*Cycas circinalis*
135	*Cynometra ramiflora*
136	*Cyphomandra betacea*
137	*Dendrocnide latifolia*
138	*Dictyosperma album*
140	*Diospyros kaki*
141	*Discocalyx ponapensis*
142	*Elaeocarpus joga*
143	*Eugenia cuminii*
144	*Eugenia javanica*
145	*Eugenia malaccensis*
146	*Eugenia stelechantha*
147	*Eugenia thompsonii*
149	*Ficus carica*
150	*Ficus elastica*
151	*Gliricida sepium*
152	*Guaiacum officinale*
153	*Guamia mariannae*
154	*Heritiera longipetiolata*
155	*Hernandia ovigera*
156	*Hernandia sonora*
157	*Heterospathe elata*
158	*Latania loddigesii*
159	*Leucaena insularum*
160	*Livistona chinensis*
161	*Macadamia integrifolia*
162	*Macaranga thompsonii*
163	*Mammea odorata*
164	*Mangifera odorata*
165	*Manihot glaziovii*
166	*Manilkara zapota*
167	*Melanolepis multiglandulosa*
168	*Merrilliodendron megacarpum*
169	*Metroxylon amicarum*
170	*Mimusops elengi*
171	*Moringa oleifera*
172	*Morus alba*
173	*Muntingia calabura*
174	*Myrica rubra*
175	*Pandanus dubius*

176 *Pandanus fragrans*
178 *Pangium edule*
179 *Phoenix dactylifera*
180 *Phoenix sylvestris*
181 *Phyllanthus acidus*
182 *Pimenta pimentadioica*
183 *Pimenta racemosa*
184 *Plumeria obtusa*
185 *Plumeria rubra*
186 *Pongamia pinnata*
187 *Pouteria campechiana*
188 *Pouteria obovata*
189 *Pouteria sapota*
190 *Premna obtusifolia*
191 *Prunus persica*
192 *Psychotria mariana*
193 *Psychotria rotensis*
194 *Pterocarpus indicus*
195 *Rhizophora apiculata*
196 *Rhizophora mucronata*
197 *Roystonea elata*
198 *Schefflera actinophylla*
199 *Serianthes nelsonii*
200 *Sonneratia alba*
201 *Streblus pendulinus*
202 *Tabebuia pallida*
203 *Tamarindus indica*
204 *Trema orientalis*
205 *Tristiropsis obtusangula*
206 *Vitex parviflora*
207 *Ximenia americana*
208 *Xylosma nelsonii*
209 *Zizyphus mauritiana*
210 *Tabernaemontana rotensis*
212 *Citrus hystrix*
213 *Eucalyptus globulus*
214 *Eugenia palumbis*
215 *Ficus virens*
216 *Flacourtia rukam*
224 *Schinus terebinthifolius*
278 *Acacia confusa*
281 *Acacia koa*
293 *Artocarpus altilis*
294 *Artocarpus heterophyllus*
295 *Artocarpus nobilis*
303 *Acacia farnesiana*
329 *Eriobotrya japonica*
339 *Eucalyptus deglupta*
340 *Eucalyptus pilularis*
341 *Eucalyptus robusta*
342 *Eucalyptus saligna*
343 *Eucalyptus sideroxylon*
352 *Ficus microcarpa*
358 *Grevillea robusta*
361 *Hevea brasiliensis*
382 *Peltophorum pterocarpum*
385 *Pithecellobium dulce*
386 *Cyathea decurrens*
387 *Cyathea medullaris*
400 *Adenanthera pavonina*
401 *Aglaia heterotricha*
402 *Aglaia saltatorum*
403 *Aglaia samoensis*
405 *Albizia chinensis*
406 *Alectryon samoensis*
407 *Aleurites moluccana*
408 *Allophylus timorensis*
409 *Alphitonia zizyphoides*
410 *Alstonia pacifica*
411 *Anacolosa insularis*
412 *Annona muricata*
413 *Annona squamosa*
415 *Antidesma sphaerocarpum*
416 *Antirhea inconspicua*
417 *Areca catechu*
419 *Artocarpus odoratissima*
420 *Arytera brackenridgei*
421 *Ascarina diffusa*
422 *Astronidium navigatorum*
423 *Astronidium pickeringii*
424 *Astronidium samoense*
425 *Astronidium subcordatum*
426 *Atuna racemosa*
427 *Averrhoa bilimbi*
428 *Averrhoa carambola*
429 *Baccaurea taitensis*
430 *Barringtonia asiatica*
431 *Barringtonia samoensis*
432 *Bischofia javanica*
433 *Boehmeria virgata*
434 *Broussonetia papyrifera*
435 *Bruguiera gymnorrhiza*
436 *Buchanania merrillii*
437 *Burckella richii*
439 *Calophyllum neo-ebudicum*
440 *Calophyllum inophyllum*
441 *Cananga odorata*
443 *Canarium harveyi*
444 *Canarium ovatum*
445 *Canarium samoense*
446 *Canarium vitiense*
447 *Canthium merrillii*

448 *Carica papaya*
449 *Casearia spp. Nova*
450 *Cassia fistula*
451 *Castilla elastica*
452 *Casuarina equisetifolia*
453 *Celtis harperi*
454 *Cerbera manghas*
455 *Cerbera odollam*
456 *Chionanthus vitiensis*
457 *Chrysophyllum cainito*
458 *Cinnamomum verum*
460 *Citronella samoensis*
461 *Citrus aurantifolia*
462 *Citrus maxima*
463 *Citrus reticulata*
464 *Citrus sinensis*
465 *Claoxylon echinospermum*
466 *Cocos nucifera*
468 *Commersonia bartramia*
469 *Coprosma savaiiensis*
470 *Coprosma strigulosa*
471 *Cordia aspera*
472 *Cordia subcordata*
473 *Crateva religiosa*
474 *Crossostylis biflora*
475 *Cryptocarya elegans*
476 *Cryptocarya hornei*
477 *Cryptocarya samoensis*
478 *Cryptocarya turbinata*
479 *Cryptocarya wilderi*
480 *Cupaniopsis samoensis*
482 *Cyathea truncata*
483 *Cyclophyllum barbatum*
485 *Delonix regia*
486 *Dendrocnide harveyi*
487 *Diospyros discolor*
488 *Diospyros ebenaster*
489 *Diospyros elliptica*
490 *Diospyros major*
491 *Diospyros samoensis*
492 *Dipteris conjugata*
493 *Drypetes vitiensis*
494 *Durio zibethinus*
495 *Dysoxylum forsteri*
496 *Dysoxylum huntii*
497 *Dysoxylum maota*
498 *Dysoxylum samoense*
500 *Dysoxylum tongense*
501 *Elaeocarpus floridanus*
502 *Elaeocarpus graeffei*
503 *Elaeocarpus grandis*
504 *Elaeocarpus ulianus*
505 *Elattostachys falcata*
506 *Eleocharis dulcis*
507 *Endiandra elaeocarpa*
508 *Erythrina fusca*
509 *Erythrina subumbrans*
510 *Erythrina variegata*
511 *Erythrospermum acuminatissimum*
512 *Eugenia reinwardtiana*
513 *Eugenia uniflora*
514 *Euphoria longana*
515 *Excoecaria agallocha*
516 *Fagraea berteriana*
517 *Ficus godeffroyi*
518 *Ficus obliqua*
519 *Ficus prolixa*
520 *Ficus scabra*
521 *Ficus tinctoria*
522 *Ficus uniauriculata*
524 *Flueggea flexuosa*
525 *Funtumia elastica*
526 *Garcinia mangostana*
527 *Garcinia myrtifolia*
528 *Garcinia sessilis*
529 *Gardenia taitensis* `
530 *Garuga floribunda*
531 *Geniostoma rupestre*
532 *Gironniera celtidifolia*
533 *Glochidion cuspidatum*
535 *Grewia crenata*
536 *Guettarda speciosa*
537 *Guioa lenticifolia*
538 *Guioa rhoifolia*
539 *Gyrocarpus americanus*
540 *Haplolobus floribundus*
541 *Harpullia arborea*
542 *Hedycarya denticulata*
543 *Hedycarya dorstenioides*
544 *Heritiera littoralis*
545 *Heritiera ornithocephala*
546 *Hernandia moerenhoutiana*
547 *Hernandia nymphaeifolia*
548 *Hibiscus tiliaceus*
549 *Homalium whitmeeanus*
550 *Inocarpus fagifer*
551 *Intsia bijuga*
554 *Lagostromia speciosa*
555 *Lansium domesticum*
556 *Leucaena leucocephala*
558 *Litchi chinensis*

559 *Litsea mellea*
560 *Litsea samoensis*
561 *Lucuma nervosa*
562 *Lumnitzera littorea*
563 *Macadamia tetraphylla*
564 *Macaranga grayana*
565 *Macaranga harveyana*
566 *Macaranga reineckei*
567 *Macaranga spp. Nova*
568 *Macaranga stipulosa*
569 *Mangifera indica*
570 *Mammea glauca*
571 *Manilkara dissecta*
572 *Manilkara samoensis*
573 *Maniltoa grandiflora*
575 *Medusanthera samoensis*
577 *Melicope retusa*
578 *Melicytus samoensis*
579 *Melilcope lauterbachii*
580 *Melochia aristata*
581 *Meryta macrophylla*
582 *Metrosideros collina*
583 *Michelia champaca*
584 *Micromelum minutum*
585 *Millettia pinnata*
586 *Morinda citrifolia*
588 *Mussaenda raiateensis*
589 *Myristica fatua*
590 *Myristica hypargyraea*
591 *Neisosperma oppositifolia*
592 *Neonauclea forsteri*
593 *Nephelium lappaceum*
594 *Ochrosia vitiensis*
595 *Omalanthus acuminatus*
596 *Omalanthus nutans*
597 *Palaquium stehlinii*
598 *Pandanus reineckei*
599 *Paraserianthes falcataria*
600 *Parasponia andersonii*
601 *Parinari insularum*
602 *Pemphis acidula*
603 *Persea americana*
605 *Pipturus argenteus*
606 *Pisonia grandis*
607 *Pisonia umbellifera*
608 *Pittosporum arborescens*
609 *Pittosporum samoense*
610 *Planchonella garberi*
611 *Planchonella grayana*
612 *Planchonella linggensis*
613 *Planchonella membranacea*
614 *Planchonella samoensis*
615 *Planchonella torricellensis*
616 *Pleiogynium timoriense*
617 *Polyathia spp. Nova*
618 *Polyscias multijuga*
619 *Polyscias samoensis*
620 *Pometia pinnata*
621 *Pouteria caimito*
622 *Premna serratifolia*
623 *Pritchardia pacifica*
624 *Psidium guajava*
625 *Psychotria grandistipulata*
626 *Psychotria insularum*
627 *Psydrax odorata*
628 *Rapanea myricifolia*
629 *Reynoldsia lanotoensis*
630 *Reynoldsia pleiosperma*
631 *Rheedula edulis*
632 *Rhizophora mangle*
633 *Rhizophora stylosa*
634 *Rhus taitensis*
635 *Rollinia deliciosa*
636 *Samanea saman*
637 *Sandoricum koetjape*
638 *Santalum yasi*
639 *Sapindus vitiensis*
640 *Sarcopygme pacifica*
641 *Scaevola taccada*
642 *Schefflera samoensis*
643 *Schleinitzia insularum*
644 *Securinega flexuosa*
645 *Semecarpus vitiensis*
646 *Serianthes melanesica*
647 *Sesbania grandiflora*
648 *Solanum vitiense*
649 *Sophora tomentosa*
650 *Spathodea campanulata*
651 *Spiraeanthemum samoense*
652 *Spondias dulcis*
653 *Sterculia fanaiho*
654 *Streblus anthropophagorum*
655 *Swietenia macrophylla*
656 *Synsepalum dulcificum*
657 *Syzgium corynocarpum*
658 *Syzygium brevifolium*
659 *Syzygium carolinense*
660 *Syzygium clusiifolium*
661 *Syzygium dealatum*
662 *Syzygium inophylloides*
663 *Syzygium jambos*
664 *Syzygium richii*

665 *Syzygium samarangense*
666 *Syzygium samoense*
667 *Syzygium savaiiense*
668 *Tabernaemontana pandacaqui*
669 *Tarenna sambucina*
670 *Terminalia catappa*
672 *Terminalia glabrata*
673 *Terminalia richii*
674 *Terminalia samoensis*
675 *Theobroma cacao*
676 *Thespesia populnea*
678 *Tournefortia argentea*
679 *Trema cannabina*
680 *Trichospermum richii*
681 *Vavaea amicorum*
682 *Veitchia merrillii*
683 *Wedelia biflora*
684 *Weinmannia affinis*
685 *Xylocarpus granatum*
686 *Xylocarpus moluccensis*
688 *Xylosma samoense*
689 *Xylosma smithianum*
690 *Zanthophyllum pinnatum*
691 *Cyathea lunulata*
692 *Pandanus tectorius*
695 *Avicennia mariana*
701 *Polyscias grandifolia*
702 *Glochidion marianum*
703 *Kleinhovia hospita*
705 *Elaeocarpus tongnus*
706 *Glochidion ramiflorum*
707 *Avicennia alba*
708 *Ceriops tagal*
709 *Pericopsis mooniana*
710 *Rhizophora x larckii*
712 *Dodonaea viscosa*
713 *Dracaena multiflora*
716 *Osmoxylon oliveri*
717 *Osmoxylon pachyphyllum*
720 *Rhizophora lamarkii*
722 *Symplocos racemosa*
723 *Timonius corymbosus*
724 *Timonius mollis*
726 *Timonius subauritus*
727 *Timonius timon*
800 *Aglaia palauensis*
801 *Aglaia ponapensis*
802 *Albizia falcataria*
803 *Albizia retusa*
804 *Allophylus ternatus*
805 *Alphitonia carolinensis*
806 *Angiopteris evecta*
807 *Astronidium palauense*
808 *Badusa palauensis*
809 *Bauhinia binata*
810 *Buchanania engleriana*
811 *Buchanania palawensis*
812 *Calophyllum pelewense*
813 *Calophyllum soulattri*
814 *Campnosperma brevipetiolata*
815 *Canarium hirsutum*
816 *Canarium indicum*
817 *Caryota mitis*
818 *Casearia cauliflora*
819 *Cassia grandis*
820 *Cassia siamea*
821 *Celtis paniculata*
822 *Cerbera floribunda*
823 *Cinnamomum carolinense*
824 *Cinnamomum pedatinervium*
825 *Cinnamomum sessilifolium*
826 *Citrus mitis*
827 *Claoxylon carolinianum*
828 *Claoxylon fallax*
829 *Claoxylon longiracemosum*
830 *Cleistanthus carolinensis*
831 *Cleistanthus insularis*
832 *Colona scabra*
833 *Combretum tetralophum*
834 *Cordia micronesica*
835 *Cordia sebestena*
836 *Cyathea nigricans*
837 *Cyathea ponapeana*
838 *Cycas revoluta*
839 *Diospyros ferrea*
840 *Dolichandrone spathacea*
842 *Drypetes nitida*
843 *Elaeis guineensis*
844 *Elaeocarpus carolinensis*
845 *Elaeocarpus kerstingianus*
846 *Elaeocarpus kusanoi*
848 *Eugenia aquea*
849 *Eugenia caryophyllus*
850 *Eugenia nitida*
851 *Eugenia palauensis*
852 *Eugenia suzukii*
854 *Evodia hortensis*
855 *Evodia nitida*
856 *Evodia palawensis*
857 *Evodia ponapensis*
858 *Evodia trichantha*
859 *Exorrhiza ponapensis*

860 *Fagraea ksid*
861 *Ficus saffordii*
863 *Finischia chloroxantha*
864 *Garcinia matudai*
865 *Garcinia ponapensis*
866 *Garcinia rumiyo*
867 *Gmelina palawensis*
868 *Gnetum gnemon*
869 *Gmelina elliptica*
870 *Goniothalamus carolinensis*
871 *Gulubia palauensis*
872 *Horsfieldia amklaal*
873 *Horsfieldia novo-guineensi*
874 *Horsfieldia palauensis*
875 *Kayea pacifica*
876 *Macaranga carolinensis*
877 *Mallotus palauensis*
878 *Mallotus tiliaefolius*
879 *Mangifera minor*
880 *Manilkara hoshinoi*
882 *Manilkara udoido*
883 *Marattia fraxinea*
884 *Medusanthera carolinensis*
885 *Melaleuca quinquenervia*
886 *Meryta senfftiana*
887 *Metroxylon sagu*
888 *Morinda latibracteata*
889 *Morinda pedunculata*
890 *Musa coccinea*
891 *Musa nana*
892 *Musa sapientum*
893 *Musa textilis*
894 *Musa tikap*
895 *Musa troglodytarum*
896 *Mussaenda frondosa*
897 *Myristica insularis*
898 *Neubergia celebica*
899 *Nypa fruticans*
900 *Ochroma pyramidale*
901 *Ormosia calavensis*
902 *Pachira aquatica*
903 *Pandanus aimiriikensis*
905 *Pandanus cominsii*
906 *Pandanus compressus*
907 *Pandanus cylindricus*
908 *Pandanus dilatatus*
909 *Pandanus divergens*
910 *Pandanus duriocarpus*
911 *Pandanus enchabiensis*
912 *Pandanus fischerianus*
913 *Pandanus hosinoi*
914 *Pandanus jalvitensis*
915 *Pandanus kanehirae*
916 *Pandanus kororensis*
917 *Pandanus lakatwa*
918 *Pandanus laticanalicula*
919 *Pandanus macrocephalus*
920 *Pandanus macrojeanneretia*
921 *Pandanus menne*
922 *Pandanus obliguus*
923 *Pandanus odontoides*
924 *Pandanus palawensis*
925 *Pandanus patina*
926 *Pandanus peliliuensis*
927 *Pandanus ponapensis*
928 *Pandanus pulposus*
929 *Pandanus rectangulatus*
930 *Pandanus rotundatus*
931 *Pandanus tolotomensis*
932 *Pandanus trukensis*
933 *Pandanus utiyamai*
934 *Pandanus variegatus*
935 *Maranthes corymbosa*
936 *Parinari laurina (Atuna)*
937 *Parkia parvifoliola*
938 *Pinanga insignis*
939 *Polyscias nodosa*
940 *Ponapea hosinoi*
941 *Ponapea ledermanniana*
942 *Pouteria calcarea*
943 *Premna pubescens*
944 *Ptychosperma kusaiensis*
945 *Ptychosperma palauensis*
946 *Rauvolfia insularis*
947 *Ravenala madagascariensis*
948 *Rinorea carolinensis*
949 *Roystonea oleracea*
950 *Samadera indica*
951 *Sapium indicum*
952 *Scyphiphora hydrophyllacea*
953 *Semecarpus venenosus*
954 *Serianthes kanehirae*
955 *Spondias mombin*
956 *Spondias pinnata*
957 *Stemonurus ammui*
958 *Sterculia palauensis*
959 *Swietenia mahogoni*
960 *Tabernaemontana aurantiaca*
961 *Tecoma stans*
962 *Tectona grandis*
963 *Terminalia carolinensis*
964 *Terminalia crassipes*

965 *Terminalia edulis*
966 *Terminalia kaernbachii*
967 *Trichospermum ikutai*
968 *Trichospermum ledermannii*
969 *Vitex coffassus*
970 *Horsfieldia nunu*
971 *Psychotria rhombocarpa*
972 *Antidesma kusaiense*
973 *Ptychococcus ledermanninus*
987 *Conocarpus erectus*
993 *Melia azedarach*
999 *Unknown, other*
1000 *Acacia spp.*
1010 *Albizia spp.*
1020 *Aglaia spp.*
1030 *Aleurites spp.*
1040 *Allophylus spp.*
1050 *Alphitonia spp.*
1060 *Annona spp.*
1070 *Antidesma spp.*
1080 *Araucaria spp.*
1090 *Artocarpus spp.*
1100 *Astronidium spp.*
1110 *Averrhoa spp.*
1120 *Avicennia spp.*
1130 *Barringtonia spp.*
1140 *Bauhinia spp.*
1150 *Buchanania spp.*
1160 *Calophyllum spp.*
1170 *Canarium spp.*
1180 *Caryota spp.*
1190 *Casearia spp.*
1200 *Cassia spp.*
1210 *Casuarina spp.*
1220 *Celtis spp.*
1230 *Cerbera spp.*
1240 *Cinnamomum spp.*
1250 *Citrus spp.*
1260 *Claoxylon spp.*
1270 *Cleistanthus spp.*
1280 *Coffea spp.*
1290 *Coprosma spp.*
1300 *Cordia spp.*
1310 *Cryptocarya spp.*
1320 *Cyathea spp.*
1330 *Cycas spp.*
1340 *Dendrocnide spp.*
1350 *Diospyros spp.*
1360 *Drypetes spp.*
1370 *Dysoxylum spp.*
1380 *Elaeocarpus spp.*
1390 *Erythrina spp.*
1400 *Eucalyptus spp.*
1410 *Eugenia spp.*
1420 *Evodia spp.*
1430 *Fagraea spp.*
1440 *Ficus spp.*
1450 *Garcinia spp.*
1460 *Glochidion spp.*
1470 *Gmelina spp.*
1480 *Guioa spp.*
1490 *Hedycarya spp.*
1500 *Heritiera spp.*
1510 *Hernandia spp.*
1520 *Horsfieldia spp.*
1530 *Leucaena spp.*
1540 *Litsea spp.*
1550 *Macadamia spp.*
1560 *Macaranga spp.*
1570 *Mallotus spp.*
1580 *Mammea spp.*
1590 *Mangifera spp.*
1600 *Manilkara spp.*
1610 *Medusanthera spp.*
1620 *Meryta spp.*
1630 *Metroxylon spp.*
1640 *Morinda spp.*
1650 *Musa spp.*
1660 *Mussaenda spp.*
1670 *Myristica spp.*
1680 *Omalanthus spp.*
1690 *Osmoxylon spp.*
1700 *Pandanus spp.*
1710 *Parinari spp.*
1720 *Phoenix spp.*
1730 *Pimenta spp.*
1740 *Pisonia spp.*
1750 *Pittosporum spp.*
1760 *Planchonella spp.*
1770 *Plumeria spp.*
1780 *Polyscias spp.*
1790 *Ponapea spp.*
1800 *Pouteria spp.*
1810 *Premna spp.*
1820 *Psychotria spp.*
1830 *Ptychosperma spp.*
1840 *Reynoldsia spp.*
1850 *Rhizophora spp.*
1860 *Spondias spp.*
1870 *Swietenia spp.*
1880 *Terminalia spp.*
1890 *Timonius spp.*

1900 *Trema spp.*
1910 *Vitex spp.*
1920 *Xylocarpus spp.*
6002 *Acacia aneura*
6006 *Acacia koaia*
6009 *Acacia mearnsii*
6010 *Acacia melanoxylon*
6013 *Acacia parramattensis*
6059 *Albizia saponaria*
6067 *Alectryon macrococcus*
6068 *Alectryon macrococcus var. auwahiensis*
6069 *Alectryon macrococcus var. macrococcus*
6075 *Aleurites moluccana var. katoi*
6086 *Alnus nepalensis*
6089 *Alphitonia ponderosa*
6094 *Alstonia macrophylla*
6131 *Antidesma ×kapuae*
6136 *Antidesma platyphyllum*
6137 *Antidesma platyphyllum var. hillebrandii*
6138 *Antidesma platyphyllum var. platyphyllum*
6139 *Antidesma ponapense*
6140 *Antidesma pulvinatum*
6159 *Archontophoenix alexandrae*
6161 *Ardisia elliptica*
6204 *Avicennia marina*
6216 *Bambusa vulgaris*
6238 *Bixa orellana*
6242 *Bobea brevipes*
6243 *Bobea elatior*
6244 *Bobea sandwicensis*
6245 *Bobea timonioides*
6248 *Bocconia frutescens*
6260 *Broussaisia arguta*
6263 *Brugmansia ×candida*
6267 *Bruguiera parviflora*
6268 *Bruguiera sexangula*
6287 *Buddleja asiatica*
6318 *Caesalpinia kavaiensis*
6345 *Calotropis procera*
6397 *Carmona retusa*
6441 *Cecropia obtusifolia*
6463 *Cerbera spp*
6469 *Cereus hildmannianus*
6473 *Cestrum aurantiacum*
6474 *Cestrum diurnum*
6477 *Cestrum nocturnum*
6482 *Chamaesyce atrococca*
6483 *Chamaesyce celastroides*
6484 *Chamaesyce celastroides var. amplectens*
6485 *Chamaesyce celastroides var. celastroides*
6486 *Chamaesyce celastroides var. hanapepensis*
6487 *Chamaesyce celastroides var. kaenana*
6488 *Chamaesyce celastroides var. laehiensis*
6489 *Chamaesyce celastroides var. lorifolia*
6490 *Chamaesyce celastroides var. stokesii*
6491 *Chamaesyce celastroides var. tomentella*
6492 *Chamaesyce herbstii*
6493 *Chamaesyce kuwaleana*
6494 *Chamaesyce olowaluana*
6495 *Chamaesyce rockii*
6499 *Charpentiera densiflora*
6500 *Charpentiera elliptica*
6501 *Charpentiera obovata*
6502 *Charpentiera ovata*
6503 *Charpentiera ovata var. niuensis*
6504 *Charpentiera ovata var. ovata*
6505 *Charpentiera tomentosa*
6506 *Charpentiera tomentosa var. maakuaensis*
6507 *Charpentiera tomentosa var. tomentosa*
6510 *Cheirodendron dominii*
6511 *Cheirodendron fauriei*
6512 *Cheirodendron forbesii*
6513 *Cheirodendron platyphyllum*
6514 *Cheirodendron platyphyllum ssp. kauaiense*
6515 *Cheirodendron platyphyllum ssp. platyphyllum*
6516 *Cheirodendron trigynum*
6517 *Cheirodendron trigynum ssp. helleri*
6518 *Cheirodendron trigynum ssp. trigynum*
6521 *Chenopodium oahuense*
6545 *Chrysophyllum oliviforme*
6548 *Cibotium ×heleniae*
6550 *Cibotium chamissoi*
6551 *Cibotium glaucum*
6552 *Cibotium menziesii*
6557 *Cinchona pubescens*
6559 *Cinnamomum burmannii*
6569 *Citharexylum caudatum*
6570 *Citharexylum spinosum*
6595 *Claoxylon sandwicense*

6600 *Clermontia ×leptoclada*
6602 *Clermontia arborescens*
6603 *Clermontia arborescens ssp. arborescens*
6604 *Clermontia arborescens ssp. waihiae*
6605 *Clermontia arborescens ssp. waikoluensis*
6606 *Clermontia clermontioides*
6607 *Clermontia clermontioides ssp. clermontioides*
6608 *Clermontia clermontioides ssp. rockiana*
6609 *Clermontia drepanomorpha*
6610 *Clermontia fauriei*
6611 *Clermontia grandiflora*
6612 *Clermontia grandiflora ssp. grandiflora*
6613 *Clermontia grandiflora ssp. maxima*
6614 *Clermontia grandiflora ssp. munroi*
6615 *Clermontia hawaiiensis*
6616 *Clermontia kakeana*
6617 *Clermontia kohalae*
6618 *Clermontia lindseyana*
6619 *Clermontia micrantha*
6620 *Clermontia montis-loa*
6621 *Clermontia oblongifolia*
6622 *Clermontia oblongifolia ssp. brevipes*
6623 *Clermontia oblongifolia ssp. mauiensis*
6624 *Clermontia oblongifolia ssp. oblongifolia*
6625 *Clermontia pallida*
6626 *Clermontia parviflora*
6627 *Clermontia peleana*
6628 *Clermontia peleana var. peleana*
6629 *Clermontia peleana var. singuliflora*
6630 *Clermontia persicifolia*
6631 *Clermontia pyrularia*
6632 *Clermontia singuliflora*
6633 *Clermontia tuberculata*
6634 *Clermontia waimeae*
6641 *Clerodendrum chinense*
6642 *Clerodendrum glabrum*
6643 *Clerodendrum indicum*
6644 *Clerodendrum macrostegium*
6660 *Clusia rosea*
6702 *Colubrina asiatica*
6704 *Colubrina oppositifolia*
6722 *Coprosma foliosa*
6723 *Coprosma kauensis*
6724 *Coprosma longifolia*
6725 *Coprosma montana*
6726 *Coprosma ochracea*
6727 *Coprosma pubens*
6728 *Coprosma rhynchocarpa*
6731 *Coprosma waimeae*
6738 *Cordia collococca*
6752 *Cordyline fruticosa*
6757 *Corymbia calophylla*
6758 *Corymbia citriodora*
6759 *Corymbia ficifolia*
6760 *Corymbia gummifera*
6763 *Corynocarpus laevigatus*
6786 *Cryptocarya orfolk a*
6790 *Cryptocarya mannii*
6809 *Cyanea aculeatiflora*
6810 *Cyanea arborea*
6811 *Cyanea fissa*
6812 *Cyanea fissa ssp. fissa*
6813 *Cyanea fissa ssp. gayana*
6814 *Cyanea floribunda*
6815 *Cyanea giffardii*
6816 *Cyanea hamatiflora*
6817 *Cyanea hamatiflora ssp. carlsonii*
6818 *Cyanea hamatiflora ssp. hamatiflora*
6819 *Cyanea hardyi*
6820 *Cyanea horrida*
6821 *Cyanea kuhihewa*
6822 *Cyanea kunthiana*
6823 *Cyanea leptostegia*
6824 *Cyanea macrostegia*
6825 *Cyanea macrostegia ssp. gibsonii*
6826 *Cyanea macrostegia ssp. macrostegia*
6827 *Cyanea marksii*
6828 *Cyanea pilosa*
6829 *Cyanea pilosa ssp. longipedunculata*
6830 *Cyanea pilosa ssp. pilosa*
6831 *Cyanea pohaku*
6832 *Cyanea procera*
6833 *Cyanea pycnocarpa*
6834 *Cyanea quercifolia*
6835 *Cyanea rivularis*
6836 *Cyanea solenocalyx*
6837 *Cyanea stictophylla*
6838 *Cyanea superba*
6839 *Cyanea superba ssp. regina*

6840 *Cyanea superba ssp. superba*
6841 *Cyanea tritomantha*
6849 *Cyathea cooperi*
6876 *Cyrtandra ×ramosissima*
6878 *Cyrtandra giffardii*
6888 *Delissea fallax*
6889 *Delissea laciniata*
6890 *Delissea niihauensis*
6891 *Delissea niihauensis ssp. kauaiensis*
6892 *Delissea niihauensis ssp. niihauensis*
6893 *Delissea parviflora*
6894 *Delissea undulata*
6911 *Dillenia suffruticosa*
6913 *Diospyros blancoi*
6919 *Diospyros hillebrandii*
6924 *Diospyros sandwicensis*
6945 *Dovyalis hebecarpa*
6959 *Dubautia ×demissifolia*
6960 *Dubautia ×fallax*
6961 *Dubautia ×montana*
6963 *Dubautia arborea*
6964 *Dubautia knudsenii*
6965 *Dubautia knudsenii ssp. filiformis*
6966 *Dubautia knudsenii ssp. knudsenii*
6967 *Dubautia knudsenii ssp. nagatae*
6968 *Dubautia microcephala*
6969 *Dubautia plantaginea*
6970 *Dubautia plantaginea ssp. humilis*
6971 *Dubautia plantaginea ssp. magnifolia*
6972 *Dubautia plantaginea ssp. plantaginea*
6973 *Dubautia reticulata*
6979 *Duranta erecta*
6993 *Elaeocarpus bifidus*
7031 *Erythrina sandwicensis*
7046 *Eucalyptus botryoides*
7047 *Eucalyptus bridgesiana*
7048 *Eucalyptus cinerea*
7050 *Eucalyptus cladocalyx*
7051 *Eucalyptus cornuta*
7052 *Eucalyptus crebra*
7053 *Eucalyptus deanei*
7055 *Eucalyptus globulus ssp. globulus*
7056 *Eucalyptus globulus ssp. Maidenii*
7057 *Eucalyptus gomphocephala*
7058 *Eucalyptus goniocalyx*
7059 *Eucalyptus hemiphloia*
7060 *Eucalyptus hemiphloia var. albens*
7062 *Eucalyptus marginata*
7063 *Eucalyptus microcorys*
7064 *Eucalyptus paniculata*
7066 *Eucalyptus raveretiana*
7067 *Eucalyptus resinifera*
7068 *Eucalyptus rudis*
7069 *Eucalyptus salicifolia*
7072 *Eucalyptus tereticornis*
7073 *Eucalyptus viminalis*
7078 *Eugenia spp.OLD CODE*
7090 *Eugenia cumini*
7098 *Eugenia koolauensis*
7131 *Euphorbia haeleeleana*
7135 *Euphorbia pulcherrima*
7136 *Euphorbia tirucalli*
7141 *Eurya sandwicensis*
7154 *Exocarpos gaudichaudii*
7166 *Falcataria moluccana*
7170 *Ficus spp.OLD CODE*
7182 *Ficus nota*
7192 *Ficus thonningii*
7203 *Fitchia speciosa*
7208 *Flindersia brayleyana*
7212 *Flueggea neowawraea*
7220 *Frangula californica*
7221 *Frangula californica ssp. californica*
7224 *Fraxinus uhdei*
7226 *Fuchsia boliviana*
7227 *Fuchsia paniculata*
7243 *Gardenia brighamii*
7244 *Gardenia mannii*
7245 *Gardenia remyi*
7246 *Gardenia taitensis*
7282 *Gossypium barbadense*
7283 *Gossypium hirsutum*
7284 *Gossypium hirsutum var. hirsutum*
7293 *Grevillea banksii*
7343 *Haematoxylum campechianum*
7365 *Hedyotis fosbergii*
7366 *Hedyotis hillebrandii*
7367 *Hedyotis terminalis*
7371 *Heliocarpus popayanensis*
7394 *Hesperomannia arborescens*
7395 *Hesperomannia arbuscula*
7396 *Hesperomannia lydgatei*
7398 *Heteromeles arbutifolia*
7399 *Heteromeles arbutifolia var.*

arbutifolia

7406 *Hibiscadelphus puakuahiwi*

7408 *Hibiscadelphus bombycinus*

7409 *Hibiscadelphus crucibracteatus*

7410 *Hibiscadelphus distans*

7411 *Hibiscadelphus giffardianus*

7412 *Hibiscadelphus hualalaiensis*

7413 *Hibiscadelphus wilderianus*

7414 *Hibiscadelphus woodii*

7417 *Hibiscus arnottianus*

7418 *Hibiscus arnottianus ssp. arnottianus*

7419 *Hibiscus arnottianus ssp. immaculatus*

7420 *Hibiscus arnottianus ssp. punaluuensis*

7421 *Hibiscus brackenridgei*

7422 *Hibiscus brackenridgei ssp. brackenridgei*

7423 *Hibiscus brackenridgei ssp. mokuleianus*

7424 *Hibiscus brackenridgei ssp. molokaianus*

7425 *Hibiscus calyphyllus*

7426 *Hibiscus clayi*

7428 *Hibiscus kokio*

7429 *Hibiscus kokio ssp. kokio*

7430 *Hibiscus kokio ssp. saintjohnianus*

7431 *Hibiscus macrophyllus*

7432 *Hibiscus mutabilis*

7436 *Hibiscus waimeae*

7437 *Hibiscus waimeae ssp. hannerae*

7438 *Hibiscus waimeae ssp. waimeae*

7453 *Horsfieldia novo-guineensis*

7464 *Hylocereus undatus*

7472 *Hypericum canariense*

7477 *Ilex anomala*

7478 *Ilex aquifolium*

7483 *Ilex paraguariensis*

7514 *Jatropha curcas*

7529 *Kokia cookei*

7530 *Kokia drynarioides*

7531 *Kokia kauaiensis*

7532 *Kokia lanceolata*

7537 *Kunzea ericoides*

7539 *Labordia fagraeoidea*

7540 *Labordia hedyosmifolia*

7541 *Labordia hirtella*

7542 *Labordia kaalae*

7543 *Labordia lydgatei*

7544 *Labordia tinifolia*

7545 *Labordia tinifolia var. lanaiensis*

7546 *Labordia tinifolia var. tinifolia*

7547 *Labordia tinifolia var. wahiawaensis*

7548 *Labordia triflora*

7549 *Labordia waiolani*

7579 *Leptospermum morrisonii*

7580 *Leptospermum petersonii*

7581 *Leptospermum polygalifolim*

7582 *Leptospermum scoparium*

7598 *Ligustrum sinense*

7620 *Lophostemon confertus*

7639 *Macadamia sp*

7646 *Macaranga mappa*

7663 *Mallotus philippensis*

7664 *Mallotus sp*

7734 *Melastoma candidum*

7735 *Melastoma sanguineum*

7740 *Melicope anisata*

7741 *Melicope balloui*

7742 *Melicope barbigera*

7743 *Melicope christophersenii*

7744 *Melicope cinerea*

7745 *Melicope clusiifolia*

7746 *Melicope cruciata*

7747 *Melicope elliptica*

7748 *Melicope haleakalae*

7749 *Melicope haupuensis*

7750 *Melicope hawaiensis*

7751 *Melicope hiiakae*

7752 *Melicope hosakae*

7753 *Melicope kaalaensis*

7754 *Melicope knudsenii*

7755 *Melicope macropus*

7756 *Melicope makahae*

7757 *Melicope molokaiensis*

7758 *Melicope mucronulata*

7759 *Melicope oahuensis*

7760 *Melicope obovata*

7761 *Melicope orbicularis*

7762 *Melicope ovalis*

7763 *Melicope ovata*

7764 *Melicope pallida*

7765 *Melicope paniculata*

7766 *Melicope peduncularis*

7767 *Melicope pseudoanisata*

7768 *Melicope puberula*

7769 *Melicope quadrangularis*

7770 *Melicope radiata*

7772 *Melicope rotundifolia*

7773 *Melicope saint-johnii*

7774 *Melicope sandwicensis*
7775 *Melicope volcanica*
7776 *Melicope waialealae*
7777 *Melicope wawraeana*
7778 *Melicope zahlbruckneri*
7793 *Melochia umbellata*
7806 *Metrosideros macropus*
7807 *Metrosideros polymorpha*
7808 *Metrosideros polymorpha var. dieteri*
7809 *Metrosideros polymorpha var. glaberrima*
7810 *Metrosideros polymorpha var. incana*
7811 *Metrosideros polymorpha var. macrophylla*
7812 *Metrosideros polymorpha var. newellii*
7813 *Metrosideros polymorpha var. polymorpha*
7814 *Metrosideros polymorpha var. pseudorugosa*
7815 *Metrosideros polymorpha var. pumila*
7816 *Metrosideros rugosa*
7817 *Metrosideros tremuloides*
7818 *Metrosideros waialealae*
7819 *Metrosideros waialealae var. fauriei*
7820 *Metrosideros waialealae var. waialealae*
7831 *Miconia calvescens*
7870 *Montanoa hibiscifolia*
7874 *Morella cerifera*
7875 *Morella faya*
7880 *Morinda trimera*
7892 *Munroidendron racemosum*
7897 *Musa ×paradisiaca*
7910 *Myoporum sandwicense*
7938 *Myrsine alyxifolia*
7940 *Myrsine degeneri*
7941 *Myrsine emarginata*
7942 *Myrsine fernseei*
7943 *Myrsine fosbergii*
7945 *Myrsine helleri*
7946 *Myrsine kauaiensis*
7947 *Myrsine knudsenii*
7948 *Myrsine lanaiensis*
7949 *Myrsine lessertiana*
7950 *Myrsine mezii*
7951 *Myrsine petiolata*
7952 *Myrsine pukooensis*
7953 *Myrsine sandwicensis*
7954 *Myrsine wawraea*
7983 *Neraudia melastomifolia*
7987 *Nesoluma polynesicum*
7989 *Nestegis sandwicensis*
7993 *Nicotiana glauca*
7995 *Nothocestrum breviflorum*
7996 *Nothocestrum latifolium*
7997 *Nothocestrum longifolium*
7998 *Nothocestrum peltatum*
8001 *Nototrichium humile*
8002 *Nototrichium sandwicense*
8007 *Ochna thomasiana*
8012 *Ochrosia compta*
8013 *Ochrosia haleakalae*
8014 *Ochrosia kauaiensis*
8015 *Ochrosia kilaueaensis*
8037 *Olea europaea*
8038 *Olea europaea ssp. cuspidata*
8039 *Olea europaea ssp. europaea*
8046 *Opuntia cochenillifera*
8047 *Opuntia ficus-indica*
8048 *Opuntia monacantha*
8057 *Osmoxylon pachphyllum*
8074 *Palaquim karrak*
8144 *Parkia korom*
8149 *Parkinsonia aculeata*
8169 *Perrottetia sandwicensis*
8190 *Photinia davidiana*
8194 *Phyllanthus distichus*
8210 *Pimenta dioica*
8219 *Pinus caribaea*
8223 *Pinus patula*
8224 *Pinus pinaster*
8243 *Pipturus albidus*
8249 *Pisonia brunoniana*
8251 *Pisonia sandwicensis*
8254 *Pisonia wagneriana*
8262 *Pittosporum ×monae*
8265 *Pittosporum argentifolium*
8266 *Pittosporum confertiflorum*
8267 *Pittosporum flocculosum*
8268 *Pittosporum gayanum*
8269 *Pittosporum glabrum*
8270 *Pittosporum halophilum*
8271 *Pittosporum hawaiiense*
8272 *Pittosporum hosmeri*
8273 *Pittosporum kauaiense*
8274 *Pittosporum napaliense*
8275 *Pittosporum pentandrum*
8277 *Pittosporum terminalioides*
8278 *Pittosporum undulatum*
8279 *Pittosporum viridiflorum*

8291 *Platydesma remyi*
8292 *Platydesma spathulata*
8298 *Pleomele aurea*
8299 *Pleomele auwahiensis*
8300 *Pleomele fernaldii*
8301 *Pleomele forbesii*
8302 *Pleomele halapepe*
8303 *Pleomele hawaiiensis*
8341 *Pouteria sandwicensis*
8350 *Pritchardia lanaiensis*
8352 *Pritchardia affinis*
8353 *Pritchardia arecina*
8354 *Pritchardia beccariana*
8355 *Pritchardia forbesiana*
8356 *Pritchardia hardyi*
8357 *Pritchardia hillebrandii*
8358 *Pritchardia kaalae*
8359 *Pritchardia lanigera*
8360 *Pritchardia limahuliensis*
8361 *Pritchardia lowreyana*
8362 *Pritchardia martii*
8363 *Pritchardia minor*
8364 *Pritchardia munroi*
8366 *Pritchardia perlmanii*
8367 *Pritchardia remota*
8368 *Pritchardia remota ssp. aylmer-robinsonii*
8369 *Pritchardia remota ssp. glabrata*
8370 *Pritchardia remota ssp. napaliensis*
8371 *Pritchardia remota ssp. remota*
8372 *Pritchardia schattaueri*
8373 *Pritchardia viscosa*
8374 *Pritchardia waialealeana*
8382 *Prosopis juliflora*
8383 *Prosopis pallida*
8393 *Psidium cattleianum*
8402 *Psychotria fauriei*
8403 *Psychotria grandiflora*
8406 *Psychotria greenwelliae*
8407 *Psychotria hathewayi*
8408 *Psychotria hathewayi var. brevipetiolata*
8409 *Psychotria hathewayi var. hathewayi*
8410 *Psychotria hawaiiensis*
8411 *Psychotria hawaiiensis var. hawaiiensis*
8412 *Psychotria hawaiiensis var. hillebrandii*
8413 *Psychotria hawaiiensis var. scoriacea*
8414 *Psychotria hexandra*
8415 *Psychotria hexandra ssp. hexandra*
8416 *Psychotria hexandra ssp. hexandra var. hexandra*
8417 *Psychotria hexandra ssp. hexandra var. hirta*
8418 *Psychotria hexandra ssp. hexandra var. kealiae*
8419 *Psychotria hexandra ssp. oahuensis*
8420 *Psychotria hexandra ssp. oahuensis var. hosakana*
8421 *Psychotria hexandra ssp. oahuensis var. oahuensis*
8422 *Psychotria hexandra ssp. oahuensis var. rockii*
8423 *Psychotria hobdyi*
8425 *Psychotria kaduana*
8429 *Psychotria mariniana*
8430 *Psychotria mauiensis*
8437 *Psychotria wawrae*
8445 *Pteralyxia kauaiensis*
8446 *Pteralyxia macrocarpa*
8458 *Ptychosperma sp*
8464 *Quercus suber*
8475 *Rauvolfia sandwicensis*
8483 *Reynoldsia sandwicensis*
8505 *Rhodomyrtus tomentosus*
8507 *Rhus sandwicensis*
8512 *Ricinus communis*
8547 *Sambucus nigra*
8548 *Sambucus nigra ssp. canadensis*
8554 *Santalum salicifolium*
8556 *Santalum ellipticum*
8557 *Santalum freycinetianum*
8558 *Santalum freycinetianum var. freycinetianum*
8559 *Santalum freycinetianum var. lanaiense*
8560 *Santalum freycinetianum var. pyrularium*
8561 *Santalum haleakalae*
8562 *Santalum paniculatum*
8563 *Santalum paniculatum var. paniculatum*
8564 *Santalum paniculatum var. pilgeri*
8568 *Sapindus oahuense*
8569 *Sapindus saponaria*
8570 *Sapindus saponaria var. saponaria*
8586 *Scaevola ×cerasifolia*
8588 *Scaevola chamissoniana*
8589 *Scaevola gaudichaudiana*

8590 *Scaevola procera*
8601 *Schinus molle*
8603 *Schinus terebinthifolius var. raddianus*
8628 *Senna alata*
8630 *Senna gaudichaudii*
8631 *Senna multijuga*
8632 *Senna pendula*
8633 *Senna pendula var. advena*
8635 *Senna septemtrionalis*
8638 *Senna sulfurea*
8639 *Senna surattensis*
8647 *Sesbania sesban*
8671 *Solanum mauritianum*
8673 *Solanum torvum*
8680 *Sophora chrysophylla*
8713 *Styphelia tameiameiae*
8729 *Syncarpia glomulifera*
8745 *Syzygium sandwicense*
8782 *Tecoma castanifolia*
8797 *Terminalia myriocarpa*
8813 *Tetraplasandra flynnii*
8814 *Tetraplasandra gymnocarpa*
8815 *Tetraplasandra hawaiensis*
8816 *Tetraplasandra kavaiensis*
8817 *Tetraplasandra oahuensis*
8818 *Tetraplasandra waialealae*
8819 *Tetraplasandra waimeae*
8823 *Tetrazygia bicolor*
8834 *Thevetia peruviana*
8846 *Tibouchina urvilleana*
8851 *Toona ciliata*
8852 *Toona ciliata ssp. ciliata*
8853 *Toona ciliata ssp. ciliata var. australis*
8862 *Touchardia latifolia*
8870 *Trema orientale*
8897 *Urera glabra*
8898 *Urera kaalae*
8909 *Vernicia montana*
8911 *Vitex cofassus*
8914 *Vitex trifolia*
8915 *Vitex trifolia var. bicolor*
8916 *Vitex trifolia var. subtrisecta*
8917 *Vitex trifolia var. trifolia*
8918 *Vitex trifolia var. variegata*
8928 *Wikstroemia bicornuta*
8929 *Wikstroemia furcata*
8930 *Wikstroemia monticola*
8931 *Wikstroemia oahuensis*
8932 *Wikstroemia oahuensis var. oahuensis*
8933 *Wikstroemia oahuensis var. palustris*
8934 *Wikstroemia phillyreifolia*
8935 *Wikstroemia pulcherrima*
8936 *Wikstroemia sandwicensis*
8937 *Wikstroemia skottsbergiana*
8938 *Wikstroemia villosa*
8947 *Xylosma crenata*
8948 *Xylosma hawaiiensis*
8967 *Zanthoxylum dipetalum*
8968 *Zanthoxylum dipetalum var. dipetalum*
8969 *Zanthoxylum dipetalum var. tomentosum*
8971 *Zanthoxylum hawaiiense*
8972 *Zanthoxylum kauaense*
8975 *Zanthoxylum oahuense*
9000 *Unknown 0*
9001 *Unknown 1*
9002 *Unknown 2*
9003 *Unknown 3*
9004 *Unknown 4*
9005 *Unknown 5*
9006 *Unknown 6*
9007 *Unknown 7*
9008 *Unknown 8*
9009 *Unknown 9*
9010 *Unknown 10*
9011 *Unknown 11*
9012 *Unknown 12*
9013 *Unknown 13*
9014 *Unknown 14*
9015 *Unknown 15*
9016 *Unknown 16*
9017 *Unknown 17*
9018 *Unknown 18*
9019 *Unknown 19*
9020 *Unknown 20*
9030 *Unknown 30*
9040 *Unknown 40*
9050 *Unknown 50*
9999 *Unknown*

Appendix E – Understory Vegetation Species Codes and Names

CODE	Scientific Name
2FDP	*Unknown Orchid 0*
2SDB	*Unknown Shrub 0*
3LEAF	*Unknown Vine 4*
AAGG1	*Unknown Annual Grass 1*
ABES	*Abelmoschus esculentus*
ABMA9	*Abelmoschus manihot*
ABPR3	*Abrus precatorius*
ABUTI	*Abutilon sp.*
ACALAN	*Acalypha lanceolata*
ACALY	*Acalypha sp.*
ACAM2	*Acalypha amentacea*
ACAS	*Achyranthes aspera*
ACCA37	*Achyranthes canescens*
ACHI2	*Acalypha hispida*
ADILUN	*Adiantum lunulatum*
ADIPHI	*Adiantum philippense*
ADLA4	*Adenostemma lanceolatum*
AGCO	*Ageratum conyzoides*
AGSI2	*Agave sisalana*
ALAR8	*Aloe arborescens*
ALCA7	*Allamanda cathartica*
ALCE	*Allium cepa*
ALCU5	*Alocasia cucullata*
ALHE4	*Allamanda hendersonii*
ALMA11	*Alocasia macrorrhizos*
ALOE	*Aloe sp.*
ALPCAR	*Alpinia carolinensis*
ALPIN	*Alpinia sp.*
ALPPUB	*Alpinia pubiflora*
ALPSAM	*Alpinia samoensis*
ALPU4	*Alpinia purpurata*
ALSA2	*Allium sativum*
ALSREI	*Alstonia reineckeana*
ALYBRA	*Alyxia bracteolosa*
ALZE	*Alpinia zerumbet*
AMDU	*Amaranthus dubius*
AMGR13	*Amaranthus graecizans*
AMSP	*Amaranthus spinosus*
AMVI	*Amaranthus viridis*
ANAN15	*Anthurium andraeanum*
ANAN5	*Angelonia angustifolia*
ANCH9	*Annona cherimola*
ANCO30	*Ananas comosus*
ANEV	*Angiopteris evecta*
ANGIO	*Angiopteris sp.*
ANGR2	*Anethum graveolens*
ANLE4	*Antigonon leptopus*
ANTPLA	*Antrophyum plantagineum*
ANTSPH	*Antidesma sphaercarpum*
ARAL7	*Artocarpus altilis*
AROD2	*Artocarpus odoratissimus*
ASCU	*Asclepias curassavica*
ASDE12	*Asparagus densiflorus*
ASGA2	*Asystasia gangetica*
ASKU2	*Astronidium kusaianum*
ASNI	*Asplenium nidus*
ASPLAS	*Asplenium laserpitifolium*
ASPLE	*Asplenium sp.*
ASPO12	*Astronidium ponapense*
ASPO4	*Asplenium polyodon*
ASPPEL	*Asplenium pellucidum*
ASPSCO	*Asplenium scolopendropsis*
ASPTEN	*Asplenium tenerum*
AXCO	*Axonopus compresus*
BABL2	*Bambusa blumeana*
BACR	*Barleria cristata*
BAMBU	*Bambusa sp.*
BAMU2	*Bambusa multiplex*
BAVU2	*Bambusa vulgaris*
BIAL	*Bidens alba*
BIKMAR	*Bikka mariannensis*
BIOR	*Bixa orellana*
BIPI	*Bidens pilosa*
BLECH	*Blechnum sp.*
BLEORI	*Blechnum orientale*
BLEPYR	*Blechum pyramidatum*
BLPY	*Blechum pyramidatum*
BOBL	*Bothriochloa bladhii*
BOERH2	*Boerhavia*
BOGL4	*Bougainvillea glabra*
BOLBI	*Bolbitis sp.*
BOLHET	*Bolbitis heteroclita*
BORE4	*Boerhavia repens*
BOTBLA	*Bothrichloa bladhii*
BOTE11	*Boerhavia tetrandra*
BOUGA	*Bougainvillea sp.*
BRASS2	*Brassica sp.*
BRDI8	*Breynia disticha*
BRMU	*Brachiarai mutica*
BRNA	*Brassica napus*
BROL	*Brassica oleracea*

BRRAA	*Brassica rapa var. amplexicaulis*
BRSE11	*Bruguiera sexangula*
BUCENG	*Buchanania engleriana*
BULBO2	*Bulbophyllum sp.*
BULLON	*Bulbophyllum longiflorum*
CAAN4	*Capsicum annuum*
CAANA4	*Capsium frutescens*
CAANG	*Capsicum annuum var. glabriusculum*
CABI11	*Caladium bicolor*
CABO6	*Caesalpinna bonduc*
CACA29	*Canavalia cathartica*
CAEN4	*Canavalia ensiformis*
CAESA	*Caesalpinia sp.*
CAFI4	*Cassytha filiformis*
CAGI11	*Calotropis gigantea*
CAIN19	*Canna indica*
CALAM5	*Calamus sp.*
CAMA21	*Caesalpinia major*
CAMU11	*Calopogonium mucunoides*
CANAV	*Canavalia*
CAPA65	*Carludovica palmata*
CAPCOR	*Capparis cordifolia*
CAPU13	*Caesalpinia pulcherrima*
CARO14	*Catharanthus roseus*
CARO26	*Canavalia rosea*
CASE9	*Canavalia sericea*
CATR29	*Cayratia trifolia*
CAYRA	*Cayratia sp.*
CEAR3	*Celosia argentea*
CEAS	*Centella asiatica*
CEBR	*Cenchrus brownii*
CEEC	*Cenchrus echinatus*
CELA9	*Centotheca lappacea*
CENO	*Cestrum nocturnum*
CENPUB	*Centrosoma pubescens*
CENTO	*Centotheca sp.*
CEPATR	*Cephalomanes atrovirens*
CHAC	*Chrysopogon aciculatus*
CHBA10	*Chloris barbata*
CHETEN	*Cheilanthes tenuifolia*
CHHI3	*Chamaesyce hirta*
CHHY2	*Chamaesyce hypericifolia*
CHNI2	*Chamaecrista nictitans*
CHOD	*Chromolaena odorata*
CHPR6	*Chamaesyce prostrata*
CHTH4	*Chamaesyce thymifolia*
CILA3	*Citrullus lanatus*
CLBU3	*Clerodendrum buchananii*
CLERO2	*Cleronendrum sp.*
CLHI3	*Clidemia hirta*
CLIDE	*Clidemia sp.*
CLIN2	*Clerodendrum inerme*
CLQU2	*Clerodendrum quadriloculare*
COAS3	*Colubrina asiatica*
COBA2	*Coreopsis basalis*
COBE2	*Commelina benghalensis*
COBO	*Conyza bonariensis*
COCA5	*Conyza canadensis*
COCI4	*Corymbia citriodora*
CODI5	*Commelina diffusa*
CODIA	*Codiaeum sp.*
COEGUA	*Coelogyne guamensis*
COES	*Colocasia esculenta*
COFR2	*Cordyline fruticosa*
COGR9	*Coccinia grandis*
COGU3	*Couroupita guianensis*
COLOC	*Colocasia sp.*
COMBAR	*Commersonia bartramia*
CORDY2	*Costus sp.*
COSE19	*Connarus semidecandrus var. gaudichaudii*
COSP8	*Costus speciosus*
COVA3	*Codiaeum variegatum*
CRAS6	*Crinum asiaticum*
CRIN5	*Crotalaria incana*
CRINU	*Crinum*
CRLO3	*Crotalaria longirostrata*
CRPA10	*Crotalaria pallida*
CRZE	*Crinum zeylanicum*
CULETR	*Culcita etraminea*
CULO	*Curcuma longa*
CUMA3	*Cucurbita maxima*
CUME	*Cucumis melo*
CUMO	*Cucurbita moschata*
CUPE	*Cucurbita pepo*
CURAUS	*Curcuma australasica*
CYALAN	*Cyathea lanulata*
CYATH	*Cyathea sp.*
CYCH7	*Cyrtosperma chamissonis*
CYCI	*Cymbopogon citratus*
CYCI4	*Cyanthillium cinereum*
CYCINT	*Cyclosorus interruptus*
CYCO	*Cyperus compressus*
CYDA	*Cynodon dactylon*
CYIN6	*Cyperus involucratus*
CYJA	*Cyperus javanicus*
CYOD	*Cyperus odoratus*
CYPER	*Cyperus sp.*
CYPLON	*Cyperus longus*
CYPOP2	*Cyperus polystachyos var.*

	polystachyos
CYPR10	*Cyathula prostrata*
CYRACC	*Cyrtococcum accrescens*
CYRO	*Cyperus rotundus*
CYRO9	*Cymodocea rotundata*
CYRTA	*Cyrtandra sp.*
CYRTO4	*Cyrtosperma sp.*
DAAE	*Dactyloctenium aegyptium*
DAPAY	*Dalbergia palauensis*
DAVAL	*Davallia sp.*
DAVPEC	*Davallia pectinata*
DAVSOL	*Davallia solida*
DEAD	*Desmodium adscendens*
DECAS	*Decaspermum sp.*
DECRAY	*Decaspermum raymundii*
DEEL3	*Derris elliptica*
DEFR3	*Decaspermum fruticosum*
DEIN3	*Desmodium incanum*
DENDR13	*Dendrobium sp.*
DERE6	*Dentella repens*
DERRI	*Derris sp.*
DESMO	*Desmodium sp.*
DETR4	*Desmodium triflorum*
DETR5	*Derris trifoliata*
DEVI3	*Desmanthus virgatus*
DIACAR	*Dianella carolinensis*
DIAL2	*Dioscorea alata*
DIANE	*Dianella sp.*
DIBI	*Digitaria bicornis*
DIBU	*Dioscorea bulbifera*
DICBLA	*Dichanthium bladhii*
DICI	*Digitaria ciliaris*
DIGA3	*Digitaria gaudichaudii*
DIGIT2	*Digitaria sp.*
DIIN2	*Digitaria insularis*
DINU4	*Dioscorea nummularia*
DIOSC	*Dioscorea sp.*
DIPCYA	*Diplazium cyatheoides*
DIPLA2	*Diplazium sp.*
DIPPRO	*Diplazium proliferum*
DIRA5	*Digitaria radicosa*
DIRO2	*Dissotis rotundifolia*
DISA10	*Diospyros sandwicensis*
DISE6	*Digitaria setigera*
DISE7	*Dieffenbachia seguine*
DITI2	*Digitaria timorensis*
DOCA5	*Donax cannaeformis*
DONAX	*Donax sp.*
DOVI	*Dodonaea viscosa*
DUER	*Duranta erecta*
DYLU	*Dypsis lutescens*
ECCR	*Echinochloa crus-galli*
ECPR	*Eclipta prostrata*
EICR	*Eichhornia crassipes*
ELAKUS	*Elatostema kusaiense*
ELATO	*Elatostema sp.*
ELGE	*Eleocharis geniculata*
ELIN3	*Eleusine indica*
ELMO5	*Elephantopus mollis*
ELRU2	*Eleutheranther ruderalis*
EMBPAL	*Embelia palauensis*
EMFO	*Emilia fosbergii*
ENPH	*Entada phaseoloides*
EPIPR	*Epipremnum sp.*
EPOX	*Epiphyllum oxypetalum*
EPPI	*Epipremnum pinnatum*
ERAGR	*Eragrostis sp.*
ERAM7	*Eragrostis amabilis*
ERCI2	*Eragrostis ciliaris*
ERIPAL	*Eriachne pallescens*
ERMI5	*Eragrostis minor*
EUCH14	*Euphorbia chamissonis*
EUCY	*Euphorbia cyathophora*
EUHE4	*Euphorbia heterophylla*
EUMI9	*Euphorbia milii*
EUNE4	*Euphorbia neriifolia*
EUPE9	*Eustachys petraea*
EUPHO	*Euphorbia sp.*
EUPU9	*Euphorbia pulcherrima*
EURJAP	*Eurya japonica*
EUTI	*Euphorbia tirucalli*
FARAD	*Faradaya sp.*
FARAMI	*Faradaya amicorum*
FARBRA	*Faradaya bracteosa*
FARRUB	*Faradaya rubrum*
FERN	*Unknown Fern 0*
FERN1	*Unknown Fern 1*
FERN2	*Unknown Fern 2*
FERN3	*Unknown Fern 3*
FERN4	*Unknown Fern 4*
FERNS	*Combined Ferns*
FICUS	*Ficus sp.*
FICY	*Fimbristylis cymosa*
FIDI	*Fimbristylis dichotoma*
FIFE	*Fimbristylis ferruginea*
FIGL	*Fimbristylis globulosa*
FIMBR	*Fimbristylis sp.*
FIRU4	*Ficus rubiginosa*
FITI2	*Ficus tinctoria*
FLAGE	*Flagellaria sp.*
FLAGIG	*Flagellaria gigantea*
FLAIND	*Flagellaria indica*

FLRU2	*Flacourtia rukam*
FORB	*Unknown Forb*
FORB1	*Unknown Forb 1*
FORB2	*Unknown Forb 2*
FREREI	*Freycinetia reineckei*
FREVIL	*Freycinetia villalobosii*
FREYC	*Freycinetia sp.*
FRMA4	*Freycinetia mariannensis*
FRPO	*Freycinetia ponapensis*
GAJA	*Gardenia jasminoides*
GERBE	*Gerbera*
GERE3	*Geophila repens*
GLELIN	*Gleichenia linearis*
GLIRI	*Gliricidia sp.*
GLOCH	*Glochidion*
GLORAM	*Glochidion ramiflorum*
GLSE2	*Gliricidia sepium*
GOBA	*Gossypium barbadense*
GOGL	*Gomphrena globosa*
GOHI	*Gossypium hirsutum*
GRABLE	*Grammitis blechnoides*
GRAPE	*Grape*
GRASS	*Unknown grass 1*
GRPI4	*Graptophyllum pictum*
GYNOVA	*Gynochthodes ovalifolia*
HAMA8	*Hanguana malayana*
HAMI5	*Halophila minor*
HAPELO	*Haplopteris elongata*
HEAN8	*Heliotropium anomalum*
HECO11	*Hedychium coronarium*
HECO31	*Heliconia collinsiana*
HEDCOR	*Hedyotis cornifolia*
HEDCOR2	*Hedyotis coromarium*
HEDKOR	*Hedyotis korrorensis*
HEDYO2	*Hedyotis sp.*
HELANG	*Helicteres angustifolia*
HELIC2	*Heliconia sp.*
HEPR3	*Heliotropium procumbens*
HERE6	*Hemigraphis reptans*
HETPIN	*Heterogonium pinnatum*
HIIN2	*Histiopteris incisa*
HILO3	*Hippobroma longiflora*
HIMU3	*Hibiscus mutabilis*
HIPU	*Hippeastrum puniceum*
HIRO3	*Hibiscus rosa-sinensis*
HISC3	*Hibiscus schizopetalus*
HITI	*Hibiscus tiliaceus*
HOSA2	*Holmskioldia sanguinea*
HOYAUS	*Hoya australis*
HOYSCH	*Hoya schneei*
HYCA12	*Hyptis capitata*
HYLI8	*Hymenocallis littoralis*
HYMEN5	*Hymenophyllum sp.*
HYNE3	*Hypolytrum nemorum*
HYPOL2	*Hypolytrum sp.*
IMBA	*Impatiens balsamina*
IPBA2	*Ipomoea batatas*
IPCA	*Ipomoea cairica*
IPIN	*Ipomoea indica*
IPLI2	*Ipomoea littoralis*
IPMA5	*Ipomoea mauritiana*
IPOB	*Ipomea obscura*
IPOMO	*Ipomea sp.*
IPPE	*Ipomoea pes-caprae*
IPVI	*Ipomoea violacea*
ISCDIG	*Ischaemum digitatum*
ISCHA	*Ischaemum sp.*
ISCPOL	*Ischaemum polystachyum*
IXCO	*Ixora coccinea*
IXMA2	*Ixora macrothyrsa*
IXOCAS	*Ixora casei*
IXORA	*Ixora sp.*
IXTR	*Ixora trianthia*
JAIN	*Jatropha integerrima*
JAMI	*Jacaranda mimosifolia*
JAMU2	*Jasminum multiflorum*
JASA	*Jasminum sambac*
JUBR6	*Justicia brandegeeana*
JUCA17	*Justicia carnea*
JUSPRO	*Justicia procumbens*
KAPI	*Kalanchoe pinnata*
KYBR	*Kyllinga brevifolia*
LACA2	*Lantana camara*
LAIN	*Lagerstroemia indica*
LAIN4	*Laportea interrupta*
LARU4	*Laportea ruderalis*
LASA3	*Lactuca sativa*
LASI	*Lagenaria siceraria*
LEBI	*Lepidium bidentatum*
LEESAM	*Leea sambucina*
LERE	*Lepturus repens*
LEUPAL	*Leucostegia pallida*
LIEN	*Lindsaea ensifolia*
LINDEC	*Lindsaea decomposita*
LINDS	*Linsaea sp.*
LINOBT	*Lindsaea obtusa*
LIRE2	*Lindsaea repens*
LIVIS	*Livistona*
LOMA	*Lobularia maritima*
LOMAG	*Lomagramma sp.*
LUAC2	*Luffa acutangula*
LUFCYL	*Luffa cylindrica*

LUHY6	*Ludwigia hyssopifolia*
LUOC	*Ludwigia octovalis*
LUOCO	*Ludwigia octovalvis ssp. octovalvis*
LUOCS	*Ludwigia octovalvis ssp. sessiliflora*
LYCEC3	*Lycopodium cernuum*
LYCOP2	*Lycopodium sp.*
LYCPHY	*Lycopodium phlegmaria*
LYGAUR	*Lygodium auriculatum*
LYGCIR	*Lygodium circinnatum*
LYGOD2	*Lygodium sp.*
LYGSCA	*Lygodium scandens*
MAAR14	*Malvaviscus arboreus*
MACA23	*Maesa caroninensis*
MACMAR	*Machaerina mariscoides*
MACPUB	*Macropiper puberlum*
MAES	*Manihot esculenta*
MALA9	*Macroptilium lathyroides*
MAPAN	*Mapania pandanophylla*
MARFRA	*Marattia fraxinea*
MATA3	*Macaranga tanarius*
MATO3	*Macrothelypteris torresiana*
MEDBLU	*Medinilla blumeana*
MELOC	*Melochia sp.*
MEMA	*Melastoma malabathricum*
MERE9	*Melinis repens*
MERPEL	*Merremia peltata*
MERRE	*Merremia sp.*
METU2	*Merremia tuberosa*
MICGLA	*Microstegium glabratum*
MICMIN	*Micromelum minutum*
MIDI8	*Mimosa diplotricha C. Wright ex Sauvalle*
MIFL3	*Miscanthus floridulus*
MIJA	*Mirabilis jalapa*
MIMI5	*Mikania micrantha*
MIMOS	*Mimosa sp.*
MIPU8	*Mimosa pudica*
MISC	*Microsorum scolopendria*
MISC2	*Microsorum scolopendria*
MISP2	*Microlepia speluncae*
MOCH2	*Momordica charantia*
MUBA	*Musa balbisiana*
MUEX2	*Murraya exotica*
MUGI	*Mucuna gigantea*
MUPA3	*Musa paradisiaca*
MUPH	*Mussaenda philippica*
MUPL2	*Mucuna platyphylla*
MUSA2	*Musa sp.*
MUSFRO	*Mussaenda frondosa*
MYBA3	*Myroxylon balsamum*
NEBI	*Nephrolepis biserrata*
NEHI	*Nephrolepis hirsutula*
NELO3	*Neurolaena lobata*
NEMI5	*Nepenthes mirabilis*
NEOL	*Nerium oleander*
NEPACU	*Nephrolepis acutifolia*
NEPHR	*Nephrolepis sp.*
NEPOBL	*Nephrolepis obliterata*
NEPSAL	*Nephrolepis saligna*
NESOG	*Nesogenes sp.*
NITA	*Nicotiana tabacum*
NOTREP	*Nothocnide repanda*
NYFR2	*Nypa fruticans*
NYMPH	*Nymphaea*
OCBA	*Ocimum basilicum*
OCTE2	*Ocimum tenuiflorum*
OEJAS	*Oenanthe javanica ssp. stolonifera*
OLBI2	*Oldenlandia biflora*
OPCO2	*Oplismenus compositus*
OPHI	*Oplismenus hirtellus*
OPLIS	*Oplismenus sp.*
OPPE	*Ophioglossum pendulum*
OPTUV	*Operculina turpethum*
ORCHIDSP	*Orchid sp.*
OSAN	*Osteomeles anthyllidifolia*
PAAI	*Pandanus aimiriikensis*
PACLED	*Pachygone ledermannii*
PACO14	*Paspalum conjugatum*
PADI6	*Paspalum distichum*
PAFI5	*Paspalum fimbriatum*
PAFO2	*Passiflora foetida*
PALA14	*Passiflora laurifolia*
PANDA	*Pandanus sp.*
PAOR3	*Paspalum orbiculare*
PASE5	*Paspalum setaceum*
PASPA2	*Paspalum sp.*
PASSAM	*Passiflora samoensis*
PASSI	*Passiflora sp.*
PASU3	*Passiflora suberosa*
PASU41	*Panicum subquadriparum*
PAVA	*Paspalum vaginatum*
PECR2	*Petroselinum crispum*
PENNI	*Pennisetum sp.*
PEOB2	*Peperomia obtusifolia*
PEPE5	*Peperomia pellucida*
PEPO14	*Pennisetum polystachion*
PEPO4	*Pennisetum polystachyon*
PEPU2	*Pennisetum purpureum*
PESE3	*Pennisetum setaceum*
PETI	*Pedilanthus tithymaloides*

PEVO	*Petrea volubilis*
PHAGLA	*Phaleria glabra*
PHAM5	*Phyllanthus amarus*
PHAN5	*Physalis angulata*
PHANIS	*Phaleria nisidai*
PHCA13	*Phoenix canariensis*
PHGR61	*Phymatosorus grossus*
PHHEH4	*Philodendron hederaceum var. hederaceum*
PHKA3	*Phragmites karka*
PHLU2	*Phaseolus lunatus*
PHNO2	*Phyla nodiflora*
PHVU	*Phaseolus vulgaris*
PHYLL	*Phyllanthus sp.*
PHYMAR	*Phyllanthus marianus*
PHYSCO	*Phymatosorus scolopendria*
PIBE3	*Piper betel*
PICA4	*Pityrogramma calomelanos*
PIME	*Piper methysticum*
PIMI2	*Pilea microphylla*
PIPER	*Piper sp.*
PIPFRA	*Piper fragile*
PIPGRA	*Piper graeffei*
PIPGUA	*Piper guahamense*
PIPMAC	*Piper macropiper*
PIPO3	*Piper ponapensis*
PLCA10	*Pluchea carolinensis*
PLIN4	*Pluchea indica*
PLMA2	*Plantago major*
POFR5	*Polyscias fruticosa*
POGU	*Polyscias guilfoylei*
POLCYA	*Polypodium cyathoides*
POLGRA	*Polyscias grandifolia*
POLPUN	*Polypodium punctatum*
POLSAM	*Polyscias samoensis*
POLU2	*Portulaca lutea*
POLYP	*Polypodium sp.*
POLYS4	*Polyscias sp.*
POOL	*Portulaca oleracea*
POPA18	*Polygala paniculata*
POPI13	*Polyscias pinnata*
POPR4	*Polypremum procumbens*
POSC10	*Polyscias scutellaria*
POSU20	*Polyscias subcapitata*
POTR24	*Polyscias tricochleata*
PPGG1	*Unknown Perrenial Grass 1*
PPGG2	*Unknown Perrenial Grass 2*
PPGG3	*Unknown Perrenial Grass 1a*
PPGG4	*Unknown Perrenial Grass 2a*
PROPED	*Procris pedunculata*
PSNU	*Psilotum nudum*
PSYHOM	*Psychotria hombroniana*
PSYINS	*Psychotria insularum*
PSYMAR	*Psychotria mariana*
PTEN	*Pteris ensiformis*
PTMA8	*Ptychosperma macarthuri*
PTPL	*Pteris plumula*
PTSP	*Pteris spinescens*
PTTR2	*Pteris tripartita*
PTVI	*Pteris vittata*
PTYCAL	*Pityrogramma calomelanes*
PUERA	*Puera sp.*
PUGR2	*Punica granatum*
PUMOL	*Pueraria montana*
PUPH2	*Pueraria phaseoloides*
PYRLAN	*Pyrossia lanceolata*
QUIN10	*Quisqualis indica*
RASA2	*Raphanus sativus*
RHAAFF	*Rhaphidophora versteegii*
RHACAR	*Rhaphidophora carolinensis*
RHAPH	*Rhaphidophora sp.*
RHCO4	*Rhynchospora corymbosa*
RHYNC3	*Rhynchospora sp.*
RICO3	*Ricinus communis*
RIHU2	*Rivina humilis*
ROSA	*Rorippa sarmentosa*
ROSA5	*Rosa*
RUELL	*Ruellia*
RUEQ	*Russelia equisetiformis*
RUMARI	*Rumohra aristata*
RUMO4	*Rubus moluccanus*
RUPR18	*Ruellia prostrata*
SACCH	*Saccharum sp.*
SACH18	*Salacia chinensis*
SAHY2	*Sansevieria hyacinthoides*
SAIN	*Sacciolepis indica*
SALNAU	*Salacia naumannii*
SAME5	*Sambucus mexicana*
SAOF	*Saccharum officinarum*
SATR6	*Sansevieria trifasciata*
SCDU3	*Scoparia dulcis*
SCGH	*Scirpodendron ghaeri*
SCHDIC	*Schizaea dichotoma*
SCHEF	*Schefflera sp.*
SCHODO	*Schefflera odorata*
SCLER2	*Scleria sp.*
SCLI3	*Scleria lithosperma*
SCLLEV	*Scleria levis*
SCPO8	*Scleria polycarpa*
SCSET	*Scaevola sericea*
SEAL4	*Senna alata*
SELAG	*Selaginella sp.*

SEOB4	*Senna obtusifolia*
SEOC2	*Senna occidentalis*
SEPA10	*Setaria parviflora*
SEPO2	*Sesuvium portulacastrum*
SEPUP3	*Setaria pumila ssp. pallidefusca*
SESO2	*Senna sophera*
SETE5	*Sempervivum tectorum*
SEVE3	*Setaria verticillata*
SHRUB	*Unknown Shrub*
SHRUB2	*Unknown Shrub 2*
SIAC3	*Sida acuta*
SIDA	*Sida sp.*
SIDSAM	*Sida samoensis*
SIFA	*Sida fallax*
SIRH	*Sida rhombifolia*
SOAM	*Solanum americanum*
SOBI2	*Sorghum bicolor*
SOLYL	*Solanum lycopersicum var. lycopersicum*
SOME	*Solanum melongena*
SOOL	*Sonchus oleraceus*
SOTO4	*Solanum torvum*
SOUAMA	*Soulamea amara*
SPACAR	*Spathoglottis carolinensis*
SPATH2	*Spathoglottis*
SPPL	*Spathoglottis plicata*
SPTR6	*Sphagneticola trilobata*
STACH2	*Stachytarpheta sp.*
STJA	*Stachytarpheta jamaicensis*
STMI12	*Stenotaphrum micranthum*
STSE	*Stenotaphrum secundatum*
STTI	*Stictocardia tilifolia*
STUR	*Stachytarpheta urticifolia*
SUMA2	*Suriana maritima*
SYAN	*Syngonium angustatum*
SYMA2	*Syzygium malaccense*
SYNO	*Synedrella nodiflora*
SYZSTE	*Syzgium stelechanthum*
TABER	*Tabernaemontana sp.*
TADI5	*Tabernaemontana divaricata*
TAER	*Tagetes erecta*
TALE2	*Tacca leontopetaloides*
TARSAM	*Tarenna samucina*
TECCRE	*Tectaria crenata*
TECGRA	*Tectaria grandifolia*
TECTA	*Tectaria sp.*
THEGRE	*Thelypteris gretheri*
THEHET	*Thelypteris heterocarpa*
THELY2	*Thelypteris sp.*
THEMAE	*Thelypteris maemoneusis*
THER	*Thunbergia erecta*
THETRU	*Thelypteris truncata*
THEUNI	*Thelypteris unita*
THEWAR	*Thelypteris warburgii*
THFO	*Thelypteris forsteri*
THHE4	*Thalassia hemprichii*
THIN13	*Thuarea involuta*
THIN2	*Thelypteris interrupta*
THPA4	*Thelypteris parasitica*
THPE3	*Thevetia peruviana*
TRAU13	*Tristellateia australasiae*
TRCI2	*Tribulus cistoides*
TRICH5	*Trichomanes sp.*
TRPA10	*Tradescantia pallida*
TRPR5	*Tridax procumbens*
TRPR9	*Triumfetta procumbens*
TRSP8	*Tradescantia spathacea*
TRTR7	*Triphasia trifolia*
TUUL	*Turnera ulmifolia*
UNFMPOACE	*Poaceae unknown*
UNK	*Unknown sp.*
URMA3	*Urochloa maximum*
URMU	*Urochloa mutica*
VELI	*Verbena litoralis*
VERNO	*Vernonia sp.*
VIMA3	*Vigna marina*
VINE	*Unknown Vine*
VINE2	*Unknown Vine 2*
VINE3	*Unknown Vine 3*
VITEX	*Vitex sp.*
VITR7	*Vitex trifolia*
WAIN	*Waltheria indica*
WIKELL	*Wikstroemia elliptica*
WOBI	*Wollastonia biflora*
XASA2	*Xanthosoma sagittifolium*
XAVI	*Xanthosoma violaceum*
YUGL2	*Yucca gloriosa*
ZEMA	*Zea mays*
ZERO	*Zephyranthes rosea*
ZIVI2	*Zinnia violacea*
ZOMA2	*Zoysia matrella*

Appendix F—Damage Agent codes for PNW

Damage Agent is a 2-digit code with values 10 to 90. For Agent and Severity 1, 2 and 3: the agent and severity codes indicate the type of agents that were present on a tree and describe their severity.

Agents and their severity ratings are grouped by broad category. Each category has a general agent listed. The general codes should be used if there is any question as to the identity of the specific damaging agent.