

# ForestPlots.net Manual

# Table of Contents

1. Introduction .....	6
2. Access to the database .....	7
2.1 Access Request.....	7
2.2 Contact us .....	7
2.3 Log In.....	7
3. Post-field data handling .....	9
3.1 Data organization.....	10
3.2 Original Data .....	10
3.3 Taxon Scrub.....	11
3.3.1 Taxon Scrub Example .....	12
3.4 Coded Data.....	12
3.4.1 Tags .....	16
3.4.2 TreeID.....	18
3.4.3 SubplotT1T2 .....	18
3.4.4 Coordinates.....	19
3.4.5 Taxonomic Information.....	19
3.4.6 Tree notes .....	20
3.4.7 Diameter Measurements .....	20
3.4.8 POM .....	21
3.4.9 RAINFOR Codes .....	22
3.4.10 Height.....	23
3.4.11 Liana Infestation Index (LI).....	23
3.4.12 Crown Illumination Index(CI) .....	24
3.4.13 Census Notes.....	24
3.4.14 Vouchers .....	24
3.4.15 Lianas Diameter .....	25
3.4.16 Lianas Coded Data.....	25
3.5 Read Me .....	27
3.6 UploadDataWorksheet .....	27
3.6.1 First Census Upload.....	27
3.6.2 Recensus Upload .....	28
3.7 Uploading and Checking .....	30

4. ForestPlots.net menu.....	31
4.1 Language Control.....	32
4.2 User Details.....	32
4.3 Plots.....	34
4.3.1 My Plots.....	35
4.3.2 Public Plots.....	36
4.3.2.1 Public Plot Download.....	37
4.3.3 Plot Metadata.....	37
4.3.3.1 Geographical Information_Metadata Plots.....	38
4.3.3.2 Forest Type_Metadata Plots.....	40
4.3.3.3 Forest Inventory_Metadata Plots.....	41
4.3.3.4 Admin_Metadata Plots.....	42
4.4 Import Options.....	43
4.5 Advanced Search.....	44
4.5.1 Taxonomy Tab.....	45
4.5.2 Individuals Tab.....	47
4.5.3 PhotosTab.....	48
4.5.4 Herbarium Tab.....	49
4.5.5 Plots Tab.....	50
4.5.6 Taxonomy Filters.....	51
4.5.7 TreeID Search.....	54
4.5.8 Geographical Filters.....	55
4.5.9 Environmental Filters.....	57
4.5.10 Advanced Search Downloads.....	59
4.6 Query library.....	59
5. Commands.....	64
5.1 Filter and Sorting plots.....	64
5.2 Plot Details.....	66
5.2.1 Geographical Information.....	68
5.2.1.1 Add Cluster.....	70
5.2.2 Forest Type.....	71
5.2.3 Forest Inventory.....	72
5.2.4 Soil Metadata.....	75
5.2.5 Admin.....	75

5.3 Vegetation.....	76
5.3.1 Filter Tag Number .....	77
5.3.2 View Tree .....	78
5.3.3 Add Tree.....	79
5.3.4 Edit tree.....	81
5.3.4.1 Edit Species .....	83
5.3.4.2 Edit Tag.....	86
5.3.4.3 Edit Tree Diameters .....	89
5.3.4.4 Add Tree Census .....	94
5.3.4.5 Determinations .....	97
5.3.4.6 View Vouchers .....	100
5.3.4.7 View Photographs .....	102
5.3.5 DeleteTree .....	103
5.3.6 View Liana .....	104
5.3.6.1 Edit Liana.....	106
5.4 Managing Census Data.....	112
5.4.1 View Plot census .....	113
5.4.2 Edit Plot Census.....	113
5.4.3 Participants list.....	114
5.4.3.1 Add participant .....	115
5.5 Plot View List.....	118
5.6 Generate Plot View .....	121
5.7 Data Import.....	124
5.7.1 Import New Census.....	125
5.7.1.1 Census Dates .....	125
5.7.1.2 Census Data Upload .....	126
5.7.1.3 Excel Column Identification .....	128
5.7.1.4 Herbarium and Voucher Identification .....	129
5.7.1.5 Species Identification .....	131
5.7.1.6 Tree Identification.....	133
5.7.1.7 Record Data Validation .....	136
5.7.1.8 Import Completed.....	141
5.7.2 Import Liana Plot Census Data .....	142
5.7.3 Upload Multi-Census Data .....	142

5.7.4 Import Plot Measurements.....	143
5.7.5 Import Vouchers .....	144
5.7.6 Import Photos .....	144
5.7.7 Update Determination .....	145
5.8 Plot Measurements.....	145
5.9 Plot Photos .....	146
5.10 Layout .....	147
5.11 Plot Vouchers .....	148
5.12 Participants .....	149
5.13 Import Plot .....	151
5.13.1 Plot Import Wizard.....	151
5.13.2 Census Dates .....	152
5.13.3 Census Data Upload .....	153
5.13.4 Excel Column Identification .....	155
5.13.4.1 Column Headers.....	156
5.13.5 Herbarium and Voucher Identification .....	157
5.13.6 Species Identification .....	159
5.13.7 Tree Identification.....	161
5.13.8 Record Data Validation .....	166
5.13.9 Import Completed.....	171
5.14 Sub Plot List.....	172
5.15 Data Export .....	173
5.15.1 PlotDump .....	174
5.15.2 Field Sheets .....	174
5.15.2.1 Field Sheet Header .....	176
5.15.3 Liana Field Sheet .....	176
5.15.4 Information Sheet.....	176
5.15.5 Soil Plot Dump.....	177
5.15.6 Soil List .....	177
5.16 Data Tools .....	177
5.16.1 Automated Pom Change.....	177
5.16.2 Quality Control Wizard .....	179
5.16.2.1 Before Correcting.....	184
5.16.2.2 Extra Trees .....	186

5.16.2.3 Missing Trees .....	187
5.16.2.4 Quality Control.....	187
5.17 Plot Status .....	191
5.17.1 Metadata Checks .....	193
5.17.2 Tree Checks .....	195
5.17.3 Query Checks .....	197
6. Global Taxonomy Manager.....	203
7. Database_ How to..?.....	204
7.1 Tree not measured in the field .....	204
7.2 Diameters Definitions .....	204
7.3 Ghost Recruits.....	206

# **1. Introduction**

ForestPlots.net provides a unique place for everyone who wants to measure, monitor, and understand the world's forests, and especially the tropical forests. The ForestPlots.net Database and online application allows users to View, Edit, Upload, Download and query data for each plot to which they have access.

This manual describes:

- [how to prepare data for upload](#) (See 3.) ,
- how to [upload](#)(See 5.7) and manage data using **ForestPlots.net**, and
- how to [check](#)(See 5.16.2) and [sign-off](#)(See 5.17) plot data,

Information on the responsibilities of the **ForestPlots.net** users is available on the [Code of Conduct](#) section of the [ForestPlots.net](#) website. Please acknowledge ForestPlots.net as a source of any data or information obtained through ForestPlots.net.

This should be cited as:

Lopez-Gonzalez, G., Lewis, S.L., Burkitt, M. and Phillips, O.L. 2011. ForestPlots.net: a web application and research tool to manage and analyse tropical forest plot data. *Journal of Vegetation Science* 22: 610–613. doi: 10.1111/j.1654-1103.2011.01312.x

Lopez-Gonzalez, G., Lewis, S.L., Burkitt, M., Baker T.R. and Phillips, O.L. 2009. ForestPlots.net Database. [www.forestplots.net](http://www.forestplots.net). Date of extraction [dd,mm,yy]

This manual has been written and edited by **Gabriela Lopez-Gonzalez, Wannes Hubau, Georgia Pickavance, Simon Lewis** and **Oliver Phillips** with contributions from Tim Baker, Roel Brienen, Mark Burkitt, Sophie Fauset, Ted Feldpausch, Joey Talbot.

**Some of the sections are still under revision.**

**Note:** The information presented in the screenshot examples should not be used as a source of information. The screenshots are **only** used to demonstrate the functionality of ForestPlots.net.

## **2. Access to the database**

### 2.1 Access Request

You can request a **User Name** and **Password** by filling in a [registration form](#) .  
The registration form requires the following information :

- First Name:
- Last Name:
- Institution:
- Email:
- Research interests:
- Statement indicating that you accept the terms of use of "ForestPlots.net database"

All users can view and download information on [publicly available plots](#).(See 4.3.2) The rules on how to use the data can be found in the [Code of Conduct](#) section of the ForestPlots.net website. If you are interested in having access to any other plots hosted by the database you should contact the Plot Data Manager(s) for those plots and [ForestPlots.net](#). If you are interested in using ForestPlots.net to manage and store your data please [contact us](#).

### 2.2 Contact us

If you require further information and/or have comments about the **ForestPlots.net** Database and Online application or this manual please contact: [admin@forestplots.net](mailto:admin@forestplots.net)

For more information on projects and methodologies related to ForestPlots.net visit our partners:

[RAINFOR](#)

[AfriTRON](#)

[AMAZONICA](#)

[T-FORCES](#)

[TROBIT](#)

### 2.3 Log In

Once you have received your username and password, you can enter the application :



- by clicking on the log-in tab on the home page of [www.forestplots.net](http://www.forestplots.net) or
- by going directly to [www.forestplots.net/secure/Login.aspx](http://www.forestplots.net/secure/Login.aspx).

Type your user name and password and then click on the Login button.



The screenshot displays the login interface for ForestPlots.net. At the top left is the logo 'FORESTPLOTS.NET' with a tree icon. At the top right are two buttons: 'Register' and 'Login'. The central 'Login' form is titled 'Login' and contains the following elements:

- A label 'Username' above a text input field.
- A label 'Password' above a text input field.
- A 'LOGIN' button at the bottom left of the form.
- A 'Forgotten Password' link at the bottom right of the form.

**Note:** Please do not share your account details .

### 3. Post-field data handling

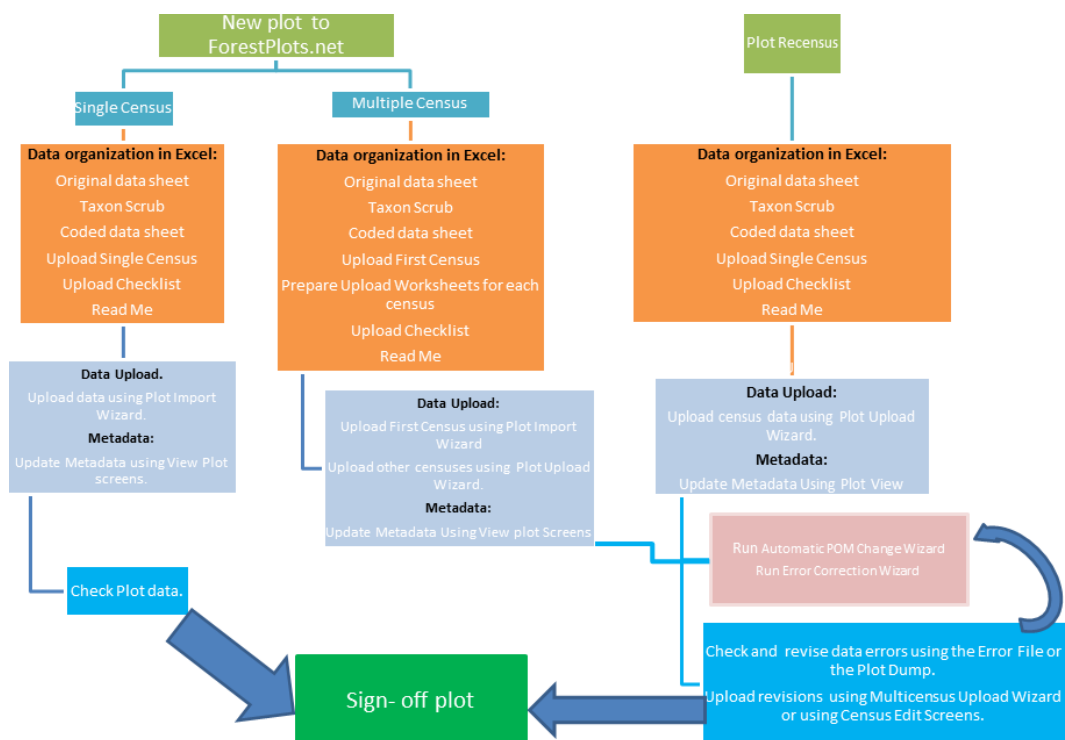
ForestPlots.net was designed to store and manage data collected during forest monitoring field campaigns using the RAINFOR protocols. Detailed information on plot monitoring can be found in "RAINFOR field manual for plot establishment and re measurement" ([Phillips et al., 2009](#)).

This section of the manual describes the post field data handling: how to go from hand written field data to a digitized spreadsheet (Excel) that can be uploaded to ForestPlots.net.

Once a fieldwork campaign is finished, the data needs to be digitized in spreadsheets according to standard procedures outlined in the [data organization section](#)(See 3.1).

Next, data needs to be [uploaded](#)(See 5.7) on the on-line ForestPlots.net database and, then the data needs to be [checked](#)(See 5.16.2) . Once the data has been checked the plot can be [signed off](#)(See 5.17) .

Below is the flow diagram of the steps to follow to upload and sign off a plot.



## 3.1 Data organization

According to the RAINFOR protocol the standard plot size is 1 ha, greater than the scale of typical tree fall events, but sufficiently small to sample individual soil types ([Phillips et al., 2009](#)). If you need advice on how to manage plots larger than 1 ha, please contact [admin@forestplots.net](mailto:admin@forestplots.net).

If the data to be uploaded is from a new single census plot, five worksheets should be prepared for each single plot:

- [Original Data](#) (See 3.2),
- [Taxon Scrub](#) (See 3.3),
- [Coded Data](#) (See 3.4),
- [Upload Data](#) (See 3.4),
- [Read me](#) (See 3.5)

Each of these worksheets are explained in the following sections.

Whilst preparing a recensus for upload, only the last 3 worksheets should be created. Data in the field should be recorded using [field sheets](#) (See 5.15.2) downloaded from ForestPlots.net.

---

### **New Plot with Multiple Censuses**

If the data to be uploaded is from a new plot with multiple census, after coding the data, [upload worksheets](#) (See 3.6) need to be prepared for each census.

---

### **Multiple Plots digitized in a single file**

If data from multiple plots has been digitized in a single file, the [taxon scrub](#) (See 3.3) and [coded data](#) (See 3.4) worksheets can be prepared for all plots simultaneously. However, each plot needs to be uploaded independently and a [new worksheet/ upload file](#) (See 3.6) needs to be created for each plot. It is important to document which data treatment steps were done for a cluster of plots. This information should be included in the [Read Me](#) (See 3.5) worksheet.

## 3.2 Original Data

The **Original data** worksheet contains the raw data as collected in the field, in the original format. This worksheet should be kept as it is, without changes. In this way, original intentions and details can always be traced back. Columns and column headers might not be compatible with RAINFOR/ForestPlots.net requirements, but the data will be transformed into suitable format in the [Coded](#)

[data](#) (See 3.4)sheet. Original data sheets can be stored in the hard copy archive at Leeds University. Field sheets scan files can **be uploaded** and associated with a particular census. Please contact [admin@forestplots.net](mailto:admin@forestplots.net) if you need more information.

Below is an example of an original data worksheet from a plot located in Peru. The data corresponds to a multiple census plot.

1	FAJA	S1	S2	num. viej	num. nu	LIAN:	FAM	GEN	SPE	det.	983	791	994	998	700	903	X	Y	comentario	POM	cambio
125	A		5		86.1		POLY	Triplaris	setosa						11		92.5	87.1			
126	A	2	E	4095	87		VIO	Rinorea	viridifolia	12.7	12.7	13		12.7	13.2		88.8	81.9			
127	A	2	E	4089	88		SAPO	Chrysophy	pomiferum	10.8	11	11.8		12.7	12.9		92.4	80.9			
128	A				89		VIO	Rinorea	viridifolia					10.3	10.4		88.2	80			
129	A	4	J		89.1		FLA	Hasseltia	floribunda						10.5		90.2	79			
130	A	2	E	4096.1	90		FABM	Inga	semialata		10.8	17.5	20.3		21.6		83.7	82.1			
131	A	5			90.1		VIO	Rinorea	viridifolia						10.2		84.9	80.5			
132	A	2	E	4096	91		PAL	Iniarte	delloidea	31.1	31.6	31.4		31.6	31.4		84.6	84.2			
133	A	2	E	4097	92		EUP	Drypetes	gentryi	49	50.7	53.3	53		53.1		81.9	86.4			
134	B	4	J	4139	93		STE	Sterculia	sp40-tessmannii	25.4	25.4	25.8	25.9		26.1		78	86.3			
135	B	4	J	4141	94		VIO	Rinorea	viridifolia	12.4	13	13.1	13.1		13.3		78.3	82.9			
136	B	4	I	4143	95		ELA	Sloanea	fragrans	11.1	13.2	14.6	15.4		15.5		78.2	80			
137	B	4	I	4146	96		ANN	?	2	13.3	16.5	18.5	21		21.2		77	77.5			
138	B	4	I	4144	97		RUB	Chimarrhi	hookeri	35.3	35.3	38	42.4		44.4		79.5	78.5			
139	A	2	D	4081	98		MYR	Myrtil	lyanthera	21.9	22.5	21.2	21.9		22		92.8	63.5			
140	A	2	D	4081.1	99		VIO	Rinorea	viridifolia		11.8	12.4	12.8		12.9		90.2	67.1			
141	A	2	D	4078	100		SAPO	Pouteria	106-caimito vel sp	20.6	22	24.5	25.8		25.9		91.4	74.9			
142	A	2	D	4079	101		VIO	Rinorea	viridifolia	13	13.2	13.7	14.3		14.3		91.5	75			
143	A	3	F	4217.1	102		PAL	Socratea	exorrhiza			14	16		16.5		78.5	9.8	juv, 5m	N4217	
144	A	1	A	4021	103		ANA	Thyrsodi	spruceanum	14.6	14.9	15.2	15.3		15.3		98.5	20			
145	A	1	B	4024	104		FABP	Swartzia	arborescens	18.8	18.5	19.4	20.9		21.7		100	22.2			
146	A	1	B	4026	105		BUR	Tetragast	altissima	45.8	47.7	47	47.8		47.8		99	26.7			
147	A	1	B	4037	106		ANN	Trigymae	ducker	11.4	14.3	15	15.8		15.8		97.2	29.8			
148	A	3	G	4038	107		MOR	Pseudolm	laevis	23.2	23.5	23.5	23.8		23.8		99.2	39.8			
149	A	1	B	4042	108		MOR	Brosimur	alicastrum	78	78	78	78		78		96.1	32	POM@4.0m	RELASKOP98	

### 3.3 Taxon Scrub

The **taxon scrub** worksheet contains a species list generated using the original data. This list contains no duplicates and should include 5 separate columns: Family, Species name (Latin Binomial), Checked Family Name, Checked Binomial, Notes on issues detected. See [Taxon Scrub example](#) (See 3.3.1).

This species list can be used to check spelling of names and to check species are assigned to the correct APGIII family. Synonyms are not applied at this stage and we recommend using the valid non-synonymized name given to the tree/stem by the botanist in the field or in the Herbarium.

Search for each species name using a taxonomic database (you can copy paste the names from your list). Check if its spelling is correct and whether it is an accepted name. Check if family names follow the APGIII classification. For more information on APGIII visit:

<http://www.mobot.org/MOBOT/research/APweb/welcome.html>

Once all species names issues have been detected, write the issues detected in the Notes column. Write the correct Family and Species Names in the Checked Family and Checked Binomial Columns. Make sure corrections are applied in the next worksheets (Coded data, Upload data).

Taxon scrubbing can be performed for several plots together and the Taxon scrub sheet will be the same for all these plots. If this is the case, state this in the [Read Me](#) (See 3.5) sheet. This will apply to cases where multiple plots have been censused during the same campaign, using the same botanist(s).

The main taxonomic resources used by [ForestPlots.net/RAINFOR/AfriTRON](http://ForestPlots.net/RAINFOR/AfriTRON) are :

- African Flowering Plants Database for **African Plots**: <http://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php>
- Tropicos for **South American Plots**: <http://www.tropicos.org/>
- Queensland Herbarium for **Australasian plots**: <http://avh.chah.org.au/>
- World checklist of Selected Plant Families for Asian plots: <http://apps.kew.org/wcsp/advanced.do>

Alternatively, the species list can be checked using the Taxonomic Resolution Name Service ( <http://tnrs.iplantcollaborative.org/> , TNRS) which offers the possibility to upload and check long lists at once. This resource is only linked to Tropicos and therefore especially useful for South American plots. When copying species lists into TNRS include the Family and the binomial.

Finally, the Plant list is also useful to consult (<http://www.theplantlist.org/>).

### 3.3.1 Taxon Scrub Example

Below is an example of a taxon scrubbed species list. The example includes issues due to misspellings and discrepancies in families. The corrections that need to be applied in the [Coded worksheet](#) (See 3.4) are highlighted in yellow.

Family	FullSpeciesname	Checked Family	Checked Binomial	Comments
Anacardiaceae	Anacardium giganteum	Anacardiaceae	Anacardium giganteum	ok
Annonaceae	Annona montanas	Annonaceae	Annona montana	Species Misspelling
Annonaceae	Annona paludosa	Annonaceae	Annona paludosa	ok
Capparaceae	Capparidastrum macrophylla	Capparaceae	Capparidastrum macrop	ok
Fabaceae	Acacia macrofroesi	Fabaceae	Acacia macrofroesi	ok
Fabaceae	Cynometra bauhiniaefolia	Fabaceae	Cynometra bauhiniaefoli	ok
Myrsinaceae	Cybianthus penduliflorus	Primulaceae	Cybianthus pendulifloru	Family change
Myrsinaceae	Myrsine guianensis	Primulaceae	Myrsine guianensis	Family change
Quiinaceae	Lacunaria crenata	Ochnaceae	Lacunaria crenata	Family change
Quiinaceae	Lacunaria jenmanii	Ochnaceae	Lacunaria jenmanii	Family change
Quiinaceae	Quiina amazonica	Ochnaceae	Quiina amazonica	Family change
Quiinaceae	Quiina florida	Ochnaceae	Quiina florida	Family change
Quiinaceae	Quiina paraensis	Ochnaceae	Quiina paraensis	Family change
Quiinaceae	Quiina sessilis	Ochnaceae	Quiina sessilis	Family change
Quiinaceae	Touroulia guianensis	Ochnaceae	Touroulia guianensis	Family change
Theophrastaceae	Clavija lancifolia	Primulaceae	Clavija lancifolia	Family change
Verbenaceae	Tectona grandis	Lamiaceae	Tectona grandis	Family change

### 3.4 Coded Data

The **Coded data** sheet is a translation of [original data](#) (See 3.2) into a format compatible with ForestPlots.net. The tree and palm census data should be

coded and uploaded using the RAINFOR Tree census protocol. Lianas should be coded using a the liana format. If lianas and trees/palms were recorded using the same format, lianas have to be removed and coded following the liana protocols. The [Liana Census Section](#) includes the headers used for formatting Liana data.

### Tree Census Information

The tree and census information should follow the RAINFOR protocols. The Coded data sheet includes all the headers required by ForestPlots.net. An Excel file with correct headers can be downloaded from [ForestPlots.net](#) website. All trees reported as alive or dead in the current census should have the information described in the table below. The rules for each item are described in detail in the next section.

Header	Definition
<a href="#">New Tag No/Tag No</a> (See 3.4.1)	Tags new to the current census (see <a href="#">Tags</a> (See 3.4.1) section for more information on plots that have been re-tagged).
<a href="#">T1 and T2</a> (See 3.4.3)	T1 is the number or code of the primary subplot where the tree is located. T2 is the number or code of the secondary subplot. For a 1 ha plot T1 corresponds to the 20 x 20 subplot division.
<a href="#">X and Y coordinates</a> (See 3.4.4)	x and y coordinates as collected in the field.
<a href="#">Family name</a> (See 3.4.5)	Family name following APGIII. Family names should be corrected during the taxon scrub stage.
<a href="#">Species name</a> (See 3.4.5)	Species names standardized using the taxon scrubbed species list.
<a href="#">Original name</a> (See 3.4.5)	Species name (Latin Binomial) or vernacular name as recorded in the original field sheets.
<a href="#">Tree Notes</a> (See 3.4.6)	This column contains any comments about the identification of each tree.
<a href="#">D1</a> (See 3.4.7)	Diameter (mm) measured at current correct point of measurement (POM) for that field campaign. DBH1 is the best estimate of the diameter at that census.  Values should be integers and decimals are not accepted.  If the tree is dead D1 = 0 .

<a href="#">D2</a> (See 3.4.7)	When the diameter (mm) needs to be measured at a new POM due to deformity or anticipated buttress creeping, D1 is the diameter at the new POM and D2 is the diameter measurement at the old POM. Values should be integers and decimals are not accepted.
<a href="#">POM</a> (See 3.4.8)	This is the Point of Measurement where D1 is measured (mm) . If tree is dead and diameter wasn't measured POM=0
<a href="#">Height</a> (See 3.4.10)	Total Tree Height measurement (m)
<a href="#">Flag 1</a> (See 3.4.9)	Code for Alive Status (required) .
<a href="#">Flag 2</a> (See 3.4.9)	Code for Dead Status (required) .
<a href="#">Flag 3</a> (See 3.4.9)	Code for Measurement Technique (required if tree is alive) .
<a href="#">Flag 4</a> (See 3.4.9)	Code for Post-field data management (required if tree is alive)
<a href="#">Flag 5</a> (See 3.4.10)	Code for Total Tree Height Measurement (How was the tree height measured/estimated).
<a href="#">LI</a> (See 3.4.11)	Code for Liana Infestation index.
<a href="#">CI</a> (See 3.4.12)	Code for Crown Illumination Index.
<a href="#">Census Notes</a> (See 3.4.13)	These are notes on individual trees for a particular census.
<a href="#">TreeID</a> (See 3.4.2)	The TreeID is the unique identifier of each tree in the ForestPlots.net database. Only trees that have been uploaded to the database have a TreeID.
<a href="#">Voucher Code</a> (See 3.4.14)	This column records the voucher codes of the collected herbarium specimens.
<a href="#">Voucher collected</a> (See 3.4.14)	This column records if the voucher sample was collected from this individual or if the field team thinks it is the same as a collected sample.

### Liana Census Information



The liana and census information should follow the RAINFOR protocols. The Coded data sheet includes all the headers required by ForestPlots.net. An Excel file with correct headers can be downloaded from [ForestPlots.net](http://ForestPlots.net) website. All lianas reported as alive or dead in the current census should have the information described in the table below. The rules for each item are described in detail in the next section.

<b>Header</b>	<b>Definition</b>
<a href="#">New Tag No/Tag No</a> (See 3.4.1)	Tags new to the current census.(see <a href="#">Tags</a> (See 3.4.1) section for more information on plots that have been re-tagged)
<a href="#">T1 and T2</a> (See 3.4.3)	T1 is the number or code of the primary subplot where the tree is located. T2 is the number or code of the secondary subplot. For a 1 ha plot T1 corresponds to the 20 x 20 subplot division.
<a href="#">X and Y coordinates</a> (See 3.4.4)	x and y coordinates as collected in the field.
<a href="#">Family name</a> (See 3.4.5)	Family name following APGIII. Family names should be corrected during the taxon scrub stage.
<a href="#">Species name</a> (See 3.4.5)	Species names standardized using the taxon scrubbed species list.
<a href="#">Original name</a> (See 3.4.5)	Species name (Latin Binomial) or vernacular name as recorded in the original field sheets.
<a href="#">Liana Notes</a> (See 3.4.6)	This column contains any comments about the identification of each tree.
<a href="#">Dlargo</a> (See 3.4.15)	Diameter at 130cm along the stem from the principal rooting point. Diameter in mm.
<a href="#">Daltura</a> (See 3.4.15)	Diameter measured at 130cm vertically above the ground (i.e., 30cm below the nail in plots where plants are tagged at 1.6m) Diameter in mm.
<a href="#">Dmax</a> (See 3.4.15)	Diameter at the widest point on the stem within 2.5m of the ground including any deformity. Diameter in mm.
<a href="#">POM D.Max</a>	Point of Measurement where Dmax was measured (mm)
<a href="#">Flag 1</a> (See	Code for Alive Status



3.4.16)	
<a href="#">Flag 2</a> (See 3.4.16)	Code for Dead Status
<a href="#">Most Affected Tree</a> (See 3.4.16)	Tree most heavily affected by the liana canopy. In the field annotate the tag, however during the upload include the Tree TreeID in this column.
<a href="#">Host trees</a> (See 3.4.16)	List of trees covered by the liana. In the field annotate the tags, however during the upload include the Trees TreeID in this column.
<a href="#">LF3/ LF4</a> (See 3.4.16)	Measurement Technique (LF3) and post-field data management (LF4) Code for Dlargo.
<a href="#">AF3/ AF4</a> (See 3.4.16)	Measurement Technique (AF3) and post-field data management (AF4) Code for Daltura.
<a href="#">MF3/ MF4</a> (See 3.4.16)	Measurement Technique (MF3) and post-field data management (MF4) Code for Dmax.
<a href="#">Census Notes</a> (See 3.4.13)	These are notes on individual lianas for a particular census.
<a href="#">TreeID</a> (See 3.4.2)	The TreeID is the unique identifier of each tree/liana in the ForestPlots.net database. Only trees/lianas that have been uploaded to the database have a TreeID.
<a href="#">Voucher Code</a> (See 3.4.14)	This column records the voucher codes of the collected herbarium specimens.
<a href="#">Voucher collected</a> (See 3.4.14)	This column records if the voucher sample was collected from this individual or if the field team thinks it is the same as the collected sample.

### 3.4.1 Tags

All trees must have a **Tag number** (Floristic transects are an exception). A Tag number is the number given to an individual tree in the field. In most plots tag numbers remained unchanged, however in some cases plots are re-tagged and new numbers are assigned to each tree. ForestPlots.net can keep track of tag changes.

When a plot is first established each individual tree is assigned a TagNumber. This information should be recorded in the field sheet in the "Tag No" column. When a plot is recensused then the Tag numbers that are new to that census should be recorded in the **New Tag** column. This column should include the tags of the recruits and tag numbers of trees that have been re-tagged.

### **Issues with tags in the field**

#### **A) Trees without tags in the field**

Whilst doing a recensuse, trees might be found **without** tags in the field. If the diameter is not much larger than 100 mm, the tree is likely a recruit and should be given a new tag number in the next field campaign (Write this recommendation in the tree census notes). If the diameter is much larger than 100 mm there are two possible scenarios: a) the tag has fallen or b) the tree is a ghost recruit. In the latter case, see the [ghost recruits](#) (See 7.3) section.

First check that all the trees located in the subplot have been measured and that this information has been recorded in the field sheets. If a tree is missing diameter information it can be the tree without tag. You can assume a tree without tag is the tree with missing information if the x,y and/or subplot information match, if the species determination is the same and/or if the diameter fits with the tree growth sequence.

#### **B) Trees with Tags in the field but not in the Field sheets.**

Whilst doing a recensuse, trees might be found **with** tags in the field but these trees might not be in the printed field sheets. You can search for these trees by: a) using the [tree search](#) (See 5.3) functionality in ForestPlots.net and/or b) [downloading a plot dump](#) (See 5.15) .

If the "missing tag" is found in the tree list then view the tree information. If the tree does not have a diameter then it is possible that the tree was tagged and not uploaded because it had a diameter <100 when tagged. To match the information from the field with the information from the plot dump check the location (T1 and/or xy), species determination and diameter sequence (if the diameter was previously recorded).

[Plot Dumps](#) (See 5.15) can be used to find missing tags. The missing tags may be in the plot dump with no census information if the tree was <100mm when it was tagged. Alternatively tags may be found in the "Previous tag" column if the trees were re-tagged during a previous census. To match the information from the field with the information from the plot dump check the location (T1 and/or xy), species determination and diameter sequence.

If the missing tags are not present in the plot dump you should search for them in the field sheets archive. Please contact the Plot PI's for more information.

If the missing tags are not present in the plot dump, nor in previous field sheets, the trees were likely tagged but measurements forgotten. Upload the trees with the missing tags as new recruits. If necessary back calculate the diameter of the tree following the [ghost recruits](#)(See 7.3) protocol.

## 3.4.2 TreeID

The **TreeID** is the unique identifier of each tree/liana in the ForestPlots.net database.

Each tree/liana must have a unique TreeID that serves as its unique label within ForestPlots.net. After each upload, a TreeID is given to recruits.

In order to avoid multiple TreeID assignment to a tree/liana already stored in the database, it is important that a previously assigned TreeID accompanies the tree/liana data for a recensus upload. Recruits are only assigned a TreeID after upload.

If the TreeIDs have been deleted from the field sheet, you need to match the field sheet to a plot dump (using Tag, T1, X Y, species and previous census D1) to obtain all TreeIDs.

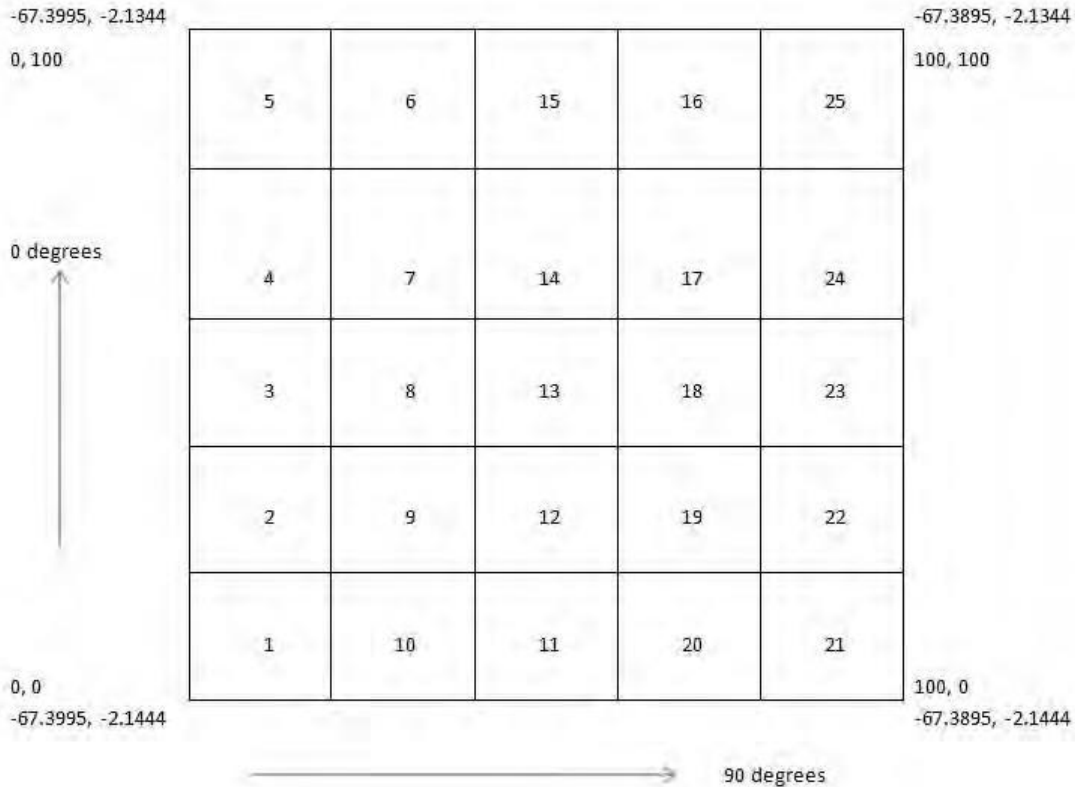
Note that any trees/lianas uploaded without a TreeID will be added as recruits to the database!

## 3.4.3 SubplotT1T2

Subplot information is recorded in the **T1** and **T2** columns (optional). T1 is the number or code of the primary subplot where the tree is located. T2 is the number or code of the secondary subplot.

Ideally, a 1 ha plot is a 100m x 100m square divided into 25 primary 20mx20m subplots and the subplot number or code (T1) should be recorded for each tree. Optionally, each primary subplot can be divided into secondary subplots (e.g. 4 secondary 10m x 10m secondary subplots per 20m x 20m primary subplot). Subplot information should be recorded in the [downloaded field sheet](#) (See 5.15)file in [Header worksheet](#)(See 5.15.2.1) . Whilst doing a recensus, mistakes should be recorded and T1 and T2 should be updated.

The diagram below displays the Subplot T1 information recorded according to the [RAINFOR](#) protocol. If the Subplot T1 information is recorded using a **different protocol**, it should be uploaded as recorded in the field. The Subplot T1 information can be standardized later and the this information is stored in the standardized Subplot T1 column in the database.



### 3.4.4 Coordinates

X and Y coordinates are tree coordinates as collected in the field. According to the [RAINFOR protocol](#) X and Y co-ordinates are estimated from bottom left-hand corner of the subplot T1.

Coordinates should be uploaded as they were recorded in the field. In the [Plot notes](#) (See 5.2.5) of the Field Sheets describe the methodology used for estimating coordinates. If you are using field sheets downloaded from ForestPlots.net the x-y recording methodology should also be recorded in the [Header Sheet](#) (See 5.15.2.1).

The coordinates can be standardized at plot level later; this information is stored in the standardized x and standardized y columns in the database. Standardization should be from a consistent 0,0 point in the plot, from the most South-West corner.

### 3.4.5 Taxonomic Information

Taxonomic information recorded during the field campaign should be checked before uploading the data. Each individual tree should have a Family and species name.

#### Family Name and Species Name

Family and species names corrected using the [taxon scrubbed](#) (See 3.3) species list (corrected only for spelling errors and using APGIII) should be used in the "Coded" and "Upload" worksheets. Family names should follow APGIII.

In the 'Coded data' sheet, create a species name column and a family name column with correctly spelled and valid scientific names for final upload (it is ok to upload "synonyms"). Make sure all mistakes recorded from the Taxon scrub are corrected. If a species name is found to be a synonym according to the taxonomic sources used during the [taxon scrub step](#) (See 3.3), leave as it is, as it is possible the "accepted" concept might not be in use by the field team.

Morphospecies (cfs, affinities) should be changed to "indet indet" and the original name should be stored under the Original identification column. Change blanks to 'indet'.

If the determination changes after a re-census please make sure that the new determination is uploaded. Changes in determinations are systematically stored in the database after each recensus upload.

### Original Identification

The original species names as they were recorded on the original field sheets, the first time a tree is recorded, should be recorded in the Original Identification column.

In the 'Coded data' sheet, keep a column with the original species names (raw names) as they appear in the 'Original data' sheet and on the written field sheet (e.g. with typos/vernacular name).

## 3.4.6 Tree notes

The **Tree Notes** column contains any comments about the identification of each tree. Tree notes are associated with a tree rather than a particular census of that tree.

Tree notes can only be uploaded once when the tree is first recorded. Any additions to the tree notes column during subsequent recensuses will not be added to the database.

## 3.4.7 Diameter Measurements

In the [field sheets](#) (See 5.15.2) the diameter should be recorded in the D column. If a tree has a POM change then two diameters need to be recorded: DBH1 and DBH2. More Information on Diameter definitions can be found [here](#) (See 7.2) **.If the tree is dead D should be 0.**

### DBH1

DBH1 is the diameter measured at correct point of measurement (POM) of that field campaign. DBH1 is the best estimate of diameter at that census. If a POM change is applied in the field when the a problem is anticipated in the future, DBH1 is still measured at the old POM. In the following field campaign diameter will be measured at the new POM.

DBH1 should be  $\geq$  the minimum size diameter of your plot/census (which is mostly 100 mm).

ALL diameter measurements are in millimeters.

## DBH2

When a diameter needs to be measured at a new POM, the diameter at the old POM is recorded as DBH2. In case of a POM change, write the DBH measurement at the old POM under DBH2 and the measurement at the new (correct) POM in DBH1. ALL diameter measurements are in millimeters.

The ratio of  $DBH2_{pom\_change}/DBH1_{pom\_change}$  is used to project DBH2 assuming the same taper as at POM change census, thus

$$DBH2 = DBH1 * ( DBH2_{pom\_change} / DBH1_{pom\_change} ) .$$

Before a POM change DBH1 and DBH2 are equal.

At the census of the POM change DBH2 is the measured or estimated diameter at the old POM.

This means:

Before a POM change DBH1 and DBH2 are equal

At the census of POM change, DBH2 is the diameter at the old POM.

After a POM change occurs, only DBH1 is recorded and DBH2 is estimated using the formula above.

For decision making on POM changes, see the RAINFOR field manual for plot establishment and re measurement, pages 14-15

([http://www.rainfor.org/upload/ManualsEnglish/RAINFOR\\_field\\_manual\\_version\\_June\\_2009\\_ENG.pdf](http://www.rainfor.org/upload/ManualsEnglish/RAINFOR_field_manual_version_June_2009_ENG.pdf)).

## 3.4.8 POM

The Point of Measurement is recorded in the column POM, and it is where the diameter at the current census is measured.

The following rules apply to the POMs:

- POM should be recorded in millimeters.
- If POM has not changed, copy across POM height from previous census.
- If measuring at a new POM **only** record the new POM
- Do not leave empty but write '0' if POM is not recorded or if the tree is dead.
- Write '0' if POM is not recorded but certainly >1300mm.

### 3.4.9 RAINFOR Codes

The tree status and the measurement and post-field data management techniques associated to each diameter measurement should follow the RAINFOR codes.

For lianas follow the [liana codes](#)(See 3.4.16).

---

#### Flag 1

Definition: Code for Alive Status.

Rules:

- If a tree is alive, add the live tree code ('a' for normal). Alive codes are listed in the [RAINFOR field code sheets](#) .
- If a tree is dead (for recensus only), write "0" in this column.

Note: please contact [admin@forestplots.net](mailto:admin@forestplots.net) if your protocol includes measurement of dead trees in the first census.

---

#### Flag 2

Definition: Code for Mode of Death.

Rules:

- If a tree is alive, write "1" in this column.
- If a tree is dead, write a 2 or 3 letter code: one letter for mode of death (standing, broken, uprooted...), one letter for number of trees in mortality event (alone or multiple deaths), and one letter for cause of death (killed or killer). Death codes are listed in the [RAINFOR field code sheets](#)

#### Flag 3

Definition: Code for Measurement Technique.

Rules:

- If a tree is alive, write a one number code. Code "0" is normal with a tape measure. Don't forget to record estimations ("3") and ladder measurements ("4"). Measurement Technique codes are listed in the [RAINFOR field code sheets](#)
- Leave empty if the tree is dead.

---

#### Flag 4

Definition: Code for Post-Field Data Management

Rules:

- If a tree is alive, write "0" at the stage of data-entry because post-field data management should take place after upload. The only exception is POM change which should be coded "60".
- If a tree is alive, write a one number code (>0) after updates following quality control checks (if any). Post-Field Data Management codes are listed in the [RAINFOR field code sheets](#).
- Leave empty if the tree is dead.

### 3.4.10 Height

The Total Tree Height measurement is recorded in the Height column. Height recording is optional and if it was not measured please leave the height column empty. If you measure height, record total tree height (the top of the canopy). Height should be recorded in meters.

Information on tree measurement/estimation technique should be recorded in the Flag5 column.

If total tree height is measured, write one out of following codes:

- 1 (Estimated by eye),
- 2 (Manually by trigonometry; clinometer; untrained),
- 3 (Manually by trigonometry; clinometer; carefully trained),
- 4 (Laser or ultrasonic distance to tree, electronic tilt sensor for angle),
- 5 (Laser hypsometer from directly below crown, "last return" filter function),
- 6 (Directly, e.g. climbing, cutting, adjacent tower).

Leave Flag 5 empty if the tree height is not recorded.

### 3.4.11 Liana Infestation Index (LI)

The Liana Infestation Code is recorded in the LI column. Liana codes and the Liana infestation protocol (Feldpausch, Brienens and Phillips 2013) can be found in the [RAINFOR Manuals section](#).

LI codes:

- 0 (no lianas),



- 1 (1-25% of crown covered by liana leaves),
- 2 (25-50% of crown covered by liana leaves),
- 3 (50-75% of crown covered by liana leaves),
- 4 (75-100% of crown covered by liana leaves).

### 3.4.12 Crown Illumination Index(CI)

The Crown Illumination Index is recorded in the CI column. CI codes and the CI protocol (Feldpausch, Brienen and Phillips 2013) can be found in the [RAINFOR Manuals section](#).

The index consists of five classes of 1 to 5, with increasing intensity of light.

CI codes:

- 1 (No direct light; crown is not lit directly vertically or laterally),
- 2a (Low lateral light),
- 2b (Medium lateral light),
- 2c (High lateral light),
- 3a ( Some vertical light; <50% of the vertical projection of the crown is exposed to vertical light),
- 3b (High vertical illumination; >50%),
- 4 (Crown completely exposed to vertical light, but lateral light blocked within some or all of the 90 inverted cones encompassing the crown), 5 (Crown completely exposed to vertical and lateral light in a 45 degree curve, e.g. emergent).

### 3.4.13 Census Notes

Census notes are the notes taken in the field about individual trees for a particular census. Any special field observation can be written down in this column. Examples are: irregular stem growth, use of a ladder, height where stem is broken, presence of stranglers or lianas, cause of death...

One can anticipate to a future POM change by measuring DBH on the future POM and writing these measurements down in census notes. Census notes often include notes on DBH2 after a POM change.

During [the Quality Control checks](#) (See 5.16.2) observed irregularities can be recorded in this column. Examples are: correction of typo's from previous censuses, correction of presumed wrong measurements in case of e.g. negative growth.

### 3.4.14 Vouchers

**Voucher codes** are recorded in the the Voucher code column. The voucher code includes the collector's initials and voucher number in the following format AAA000. Do not include hyphens between the initials and the voucher number.

The **Voucher collected** column records whether there an specimen was collected or not from a given tree. In some cases an specimen collected from a given tree is used as a reference for other trees.

If a voucher was collected from a tree, write "1" in this column. If a voucher is used as a reference (i.e. " tree xxx is probably the same as tree xxx") then write "0" in this column.

Note: To upload vouchers the collector name and initials need to be recorded in the **Participants master list** and he/she should be explicitly identified as a collector. The person doing the uploading should know the name and code of the Herbarium were the specimens are recorded as this information is requested during the upload.

### 3.4.15 Lianas Diameter

For lianas and hemiepiphytes, the diameter measurements should be taken at three points and recorded as:

- Dlargo: diameter taken a at 130cm along the stem from the principal rooting point.
- Daltura: diameter taken at 130cm vertically above the ground (i.e., 30cm below the nail in plots where plants are tagged at 1.6m)
- Dmax: diameter taken at the widest point on the stem within 2.5m of the ground, including any deformity.

All diameter measurements should be recorded in millimeters (mm).

The Point of Measurement (POMDmax) where Dmax was measured should also be recorded.

For more information consult the [RAINFOR](#) plot establishment and re-measurement manual.

### 3.4.16 Lianas Coded Data

The liana status and the measurement and post-field data management techniques associated to each diameter measurement should follow the [RAINFOR codes](#) .

---

#### Flag 1

Definition: Code for liana Alive Status and main host status (if recorded).

Rules:

- If a liana is alive, add a live liana code ('a' for normal). Alive and host status codes are listed in the RAINFOR liana field code sheets.
- If a liana is dead (for recensus only), write "0" in this column.

Note: please contact [admin@forestplots.net](mailto:admin@forestplots.net) if your protocol includes measurement of dead lianas in the first census.

---

## Flag 2

Definition: Code for Mode of Death.

Rules:

- If a liana is alive, write "1" in this column.
  - If a liana is dead, write a 2 or 3 letter code: one letter for mode of death (standing, broken, fallen...), one letter for the number of woody stems in the mortality event (died alone, died with host, unknown), and one letter for cause of death (killed or killer).
  - Death codes are listed in the RAINFOR field code sheets.
- 

## Flag 3

Definition: Code for Measurement Technique. For lianas, each Diameter measurement type (Dmax, Dlargo, Daltura) should have a measurement technique.

Rules:

- If a liana is alive, write a one number code. Measurement Technique codes are listed in the RAINFOR field code sheets.
  - Leave empty if the liana is dead .
- 

## Flag 4

Definition: Code for post-field data management. For lianas, each Diameter measurement type (Dmax, Dlargo, Daltura) should have a post-field data management code.

Rules:

- If a liana is alive, write "0" at the stage of data-entry because post-field data management should take place after upload.
- If a liana is alive, write a one number code after quality control checks (if any). Post-field data management codes are listed in the RAINFOR field code sheets.
- Leave empty if the liana is dead.

## 3.5 Read Me

This **Read Me** worksheet should include any comments related to the other worksheets in the excel document. These comments concern data issues that are rather atypical as opposed to the 'ideal' plot data. Examples are:

- Statements concerning atypical plot setup (e.g. use of T2) and difficulties observed in the field,
- Statements concerning possible change in protocol between censuses,
- Statements concerning the taxon scrub (if taxon scrubbing has been performed for multiple plots at once),
- Statements concerning the use of colours in different sheets (eg to highlight quality control checks in a multicensus upload file).

## 3.6 UploadDataWorksheet

The **Upload census data** worksheet is a version of the [Coded data](#) (See 3.4) sheet with only the information that should be uploaded.

There are two types of **Upload Census data** sheets.

- [Single first census upload data](#) (See 3.6.1)
- [Single Recensus upload](#) (See 3.6.2)

If you have a plot with several censuses that is not present in the database yet:

- First add the first census as a new single census. You need to use the [Import Plot Wizard](#). (See 5.13)
- Next, add the second census using the recensus upload data sheet. Repeat the process and upload all the censuses.
- Run the [Quality Control wizard](#) (See 5.16.2) and revise.

### 3.6.1 First Census Upload

In this section you will find a checklist of what you need to upload a **New Plot** to ForestPlots.net

To upload a **New Plot** you will need the following information:

- Plot Code to be used (3 letters and two numbers). See the [Modify Plot](#) (See 5.2) section for more information,
- Name of the plot (as used in the field),
- Shape of the plot (See the [Modify Plot](#) (See 5.2) section for more information),
- [Plot Metadata](#) (See 5.2) (this information can be provided at a later stage),
- Start and end date of the field campaign,
- [Participants](#) (See 5.4.3) in the field campaign (this information can be provided at a later stage),
- File with **Upload Worksheet** formatted following the ForestPlots.net/RAINFOR protocols.

A single first census upload data sheet should be prepared when a **New plot** has to be added to Forestplots.net. For detailed information on the columns that need to be uploaded go to the [Coded Data](#) (See 3.4) section.

Once the worksheet is ready for upload, log into ForestPlots.net and start the [Import Plot Wizard](#).(See 5.13)

CHECKLIST of all necessary columns from the [Coded data](#)(See 3.4) sheet:

- Tag Number
- T1 (as collected in the field, optional)
- T2 (as collected in the field, optional)
- X and Y (as collected in the field, optional)
- family name (APGIII, required)
- species name (binomial, required)
- original name (as recorded in the field, includes morphospecies, subspecies and varieties)
- DBH1 (required)
- POM (required)
- Flag1 (required)
- Flag2 (required)
- Flag3 (required if tree is alive)
- Flag4 (required if tree is alive)
- Height (optional, leave empty if no heights were measured)
- Flag5 (leave empty if no heights were measured)
- LI (optional, leave empty if not recorded)
- CI (optional, leave empty if not recorded)
- Census notes
- Voucher code (optional)
- Voucher collected (write "1" if voucher was collected from this individual, 0 if the voucher is used as a reference, leave empty if no voucher was collected.)

## 3.6.2 Recensus Upload

In this section you will find a checklist of what you need to upload a **New Census** to ForestPlots.net

To upload a **New Census** you will need the following information:

- Start and end date of the field campaign,
- [Participants](#) (See 5.4.3) in the field campaign,
- File with "upload" worksheet formatted following the ForestPlots.net/RAINFOR protocols.

A single recensus upload data sheet should be prepared when you want to import data of a new census for a plot is already included in Forestplots.net.

For more information on how to code a fieldsheet go to the [Download Fieldsheets](#) (See 5.15.2)Section.

Once the worksheet is ready for upload, log into ForestPlots.net and start the [Import Census Wizard](#). (See 5.7.1)

CHECKLIST of all necessary columns from the [Coded data](#)(See 3.4) sheet:

- New Tag (for re-tagged trees and recruits)
- Tree ID (required for survivor trees)
- T1 (Optional)
- T2 (optional)
- X and y (Optional)
- Family Name (Required)
- Species name (Required)
- DBH1 (Required)
- DBH2 (at old POM after eventual POM change; If no POM change, leave empty)
- POM (Required)
- Flag1 ( Required, for dead trees, write "0")
- Flag2 (Required, for alive trees, write "1")
- Flag3 (Required, for dead trees, leave empty)
- Flag4 (Required, for dead trees, leave empty)
- Total Height (optional)
- Flag5 (leave empty if no heights were measured)
- LI (Optional. For dead trees, leave empty)
- CI (Optional. For dead trees, leave empty)
- Census notes
- Voucher code (Optional)
- Voucher collected (write "1" if voucher was collected from this tree, 0 if it is used a reference. Leave empty if no voucher was collected)

Delete trees that died before the previous census (only upload alive trees or trees that died between previous and current census).

Delete information from previous censuses.

Make sure all recruits are added.

### **Upload checklist**

Before uploading the Upload data sheet, create a separate excel sheet with the following notes:

- number of individuals in the current census
- number of recruits,
- number of survivors,
- number of trees that died in that census,
- number of POM changes.

These notes will help you through the upload process.

## 3.7 Uploading and Checking

Once all your data is [coded](#) (See 3.4) and formatted to [upload](#) (See 3.6) as described in the previous section you should perform the following tasks:

### ForestPlots.net tasks

#### Trees

- [Upload Census Data](#) (See 5.7.1)
- [Add/ Check Metadata](#) (See 5.17.1)
- [Add/ Check Census Information](#) (See 5.17.1)
- [Run automated POM Change](#) (See 5.16.1)
- [Run Quality Control Check](#) (See 5.16.2)
- [Perform any corrections needed \(you can use the Multi- Census Data Upload Wizard\)](#) (See 5.16.2)
- Re- run Automated POM change and Quality Control wizard if necessary
- [Update Plot Status](#) (See 5.17) (Sign- off Plot)

#### Lianas

- [Upload Census Data](#) (See 5.7.1)
- [Add/ Check Metadata](#) (See 5.17.1)
- [Add/ Check Census Information](#) (See 5.17.1)

Note: Liana Quality Control Checks and Liana Census Status tools are not currently available.

### General Data tasks:

- Ensure that the Plot files (tree census and liana census) are stored in a secure drive. Files can be stored on the Forest N:drive at Leeds University. Please contact [admin@forestplots.net](mailto:admin@forestplots.net) for more information.
- Submit a PDF of the [Header Worksheet](#) (See 5.15.2.1) to [admin@forestplots.net](mailto:admin@forestplots.net).
- Submit a PDF of the original worksheets to [admin@forestplots.net](mailto:admin@forestplots.net).

## 4. ForestPlots.net menu

After logging into the database you will see the Welcome message and the **Main Menu**.

The Menu tabs are on the left hand side of the welcome screen. The [language control](#) (See 4.1) is on the top left corner and your [user details](#) (See 4.2) are in the top right corner.



The Menu items displayed depend on the level of access you have to the database. Click on the appropriate tab to access the information that you require. The full list of Menu items are:

**[Plots](#)**. (See 4.3) Clicking on the plot icon opens the Plots section, where different types of plots are displayed.

**[Import](#)** (See 4.4): Displays the different Import options available.

**[Advanced Search](#)**: (See 4.5) Search for information based on geographical and/or taxonomic information.

**[Query Library](#)**: (See 4.6) Opens the **Query Library** where you can run different queries on your plot data.

**Help**: Opens this instruction manual

If you want to discuss your level of access please email the [Database Manager](#).



## 4.1 Language Control

### Language control

To select a language click on the Language control icon. The languages available will be displayed.



Once you select a language the database will be displayed in this language. In the example below, after selecting ESP, the welcome page is displayed in Spanish.



## 4.2 User Details

### User details

To access your user details click on your name (top right corner). In this section you can update your user and professional information.



The User details section will be displayed. If you have participated in a Field campaign your user account should be linked to your participants details. Please contact [admin@forestplots.net](mailto:admin@forestplots.net) if your details are not linked.

In the User Details section you can update your name, username and your email address.

## Modify User

SAVE

User Details Participant Details Institutions Change Password Roles Plot Permissions

**First Name** TestGaby **Last Name** Add-Test

**Username** taddtest **Email Address** add@add.com

In the Participant Details section you can update your professional information. This is important as this information will be used to contact you in case you're responsible for plot data that might be included in a research publication/presentation.

## Modify User

SAVE

User Details Participant Details Institutions Change Password Roles Plot Permissions

**We will only pass your details for scientific outputs( papers and talks)**

**First Name** Test **Middle Names** Testingmiddle

**Last Name** Add-Test **Cited As** AddTest Test

**Is Collector**  **Initials** ATT

**Work Email** test@test.com **Personal Email** testper@test.com

**Phone No.** 005222222222 **Skype Name** miskype

**CV Link (URL)** [https://scholar.google.co.uk/citations?hl=en&user=sW-\\_n\\_0AAAAJ](https://scholar.google.co.uk/citations?hl=en&user=sW-_n_0AAAAJ)

**Comments** comments

In the Institutions section you can manage the information of the Institutions you're associated with. After adding/ updating the Institution information you can indicate if this is your current institution.

Institution Name	Is Current Institution
Institution 1	True
testing institution	True

## 4.3 Plots

The **Plots** section is displayed by clicking on the plots icon.

ENG

FORESTPLOTS.NET

TestGaby Add-Test Logout

### Welcome to the ForestPlots.NET Database

This database holds inventory data from Amazonian (RAINFOR), Africa (AFRITRON) and other tropical forests around the globe.

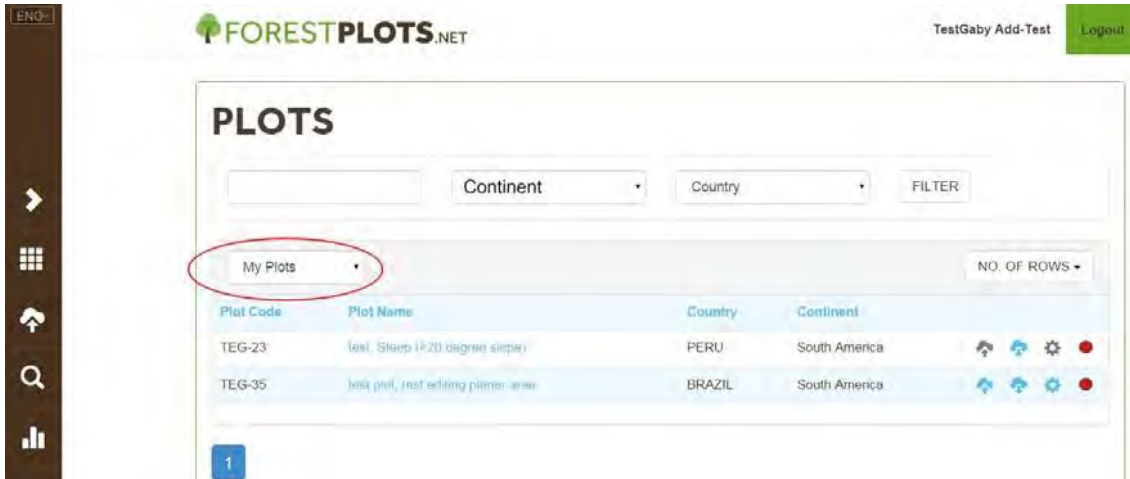
Plots

FORESTPLOTS.NET

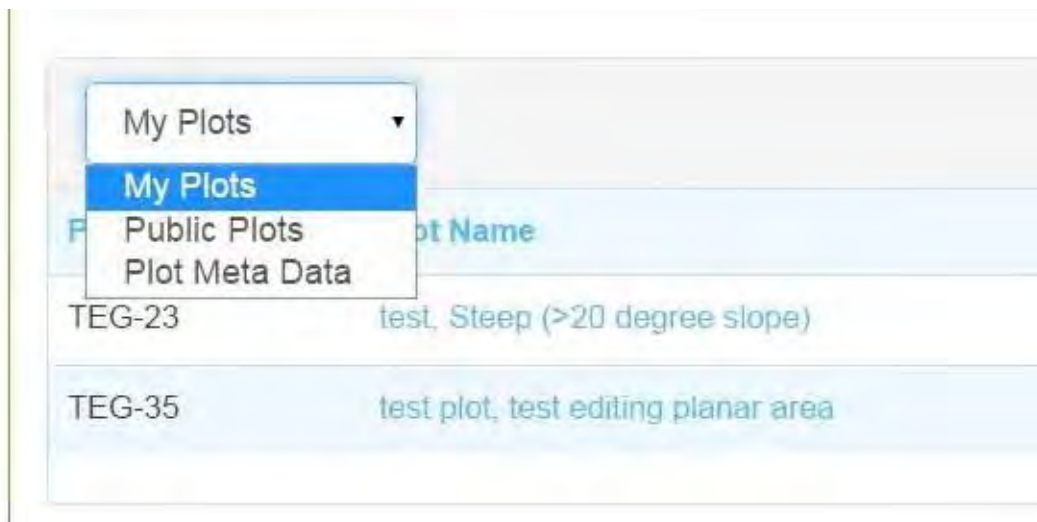
Copyright Privacy Code of Conduct

Copyright - School of Geography, University of Leeds.

The type of plot list displayed is shown in the plots drop down box (circled in red in the image below). If you're an user with plots the default plot type would be "[My Plots](#)(See 4.3.1) ".



To see different type of plot click on the **Plot dropdown box** and select a different option. All users have access to [Public Plots](#)(See 4.3.2) and [Plot Metadata](#)(See 4.3.3).



### 4.3.1 My Plots

The plots listed in the **My Plots** section are plots that you manage and/or plots you have access to on the terms agreed with the Plot Data Manager(s) and/or plot PIs.

The Plots are listed showing Plot Code , Plot Name, Country and Continent. In the example below the user only has access to three plots: TEG-23, TEG-35 and TEG-45.

**PLOTS**

Filter:  Continent:  Country:  FILTER

My Plots  NO. OF ROWS

Plot Code	Plot Name	Country	Continent
TEG-23	test, Steep (>20 degree slope)	PERU	South America
TEG-35	test plot, test editing planar area	BRAZIL	South America
TEG-45	Bug 32 testing	PERU	South America

The types of [commands](#) (See 5.) available are to the right of each plot. The commands available will depend on the permissions granted by the plot Pi's and Plot Database Manager. Commands are displayed in grey when you do not have access to them. In the example above, the user does not have plot edit or upload rights for Plot TEG-23.

## 4.3.2 Public Plots

Selecting **Public Plots** from the plots drop down box displays a list of plots where information is publicly available. Currently, data from South American plots measured in 2008, 2009, 2010 and 2011 are publicly available, with data provided to registered users.

**PLOTS**

Filter:  Continent:  Country:  FILTER

Public Plots  NO. OF ROWS

Plot Code	Plot Name	Country	Continent
ALC-01	Alter do Chão plot 1	BRAZIL	South America
ALF-01	Alta Floresta - plot 1	BRAZIL	South America
ALF-02	Alta Floresta - plot 2	BRAZIL	South America
ALM-01	Altos de Maizal	PERU	South America

The list of commands available through Public Plots are:

- [Filtering and](#) (See 5.1) sorting Plots
- [View Plot metadata](#) (See 4.3.3)
- [Data Export](#) (See 4.3.2.1)




For summaries of several plots go to the [Query Library](#) (See 4.6). The public section of the query library produces different types of outputs using information from the publicly available plot-censuses.



Note: you can view but not edit public plot data.

### 4.3.2.1 Public Plot Download

To Download publicly available data click on the download icon.

Plot Code	Plot Name	Country	Continent	
ALC-01	Alter da Chão plot 1	BRAZIL	South America	
ALF-01	Alta Floresta - plot 1	BRAZIL	South America	
ALF-02	Alta Floresta - plot 2	BRAZIL	South America	

The data will be downloaded in an excel file which includes the Plot Code and Name, tag number, family and species name and diameter (D; in mm). The example below shows the public information available for plot TAM-01. For this plot only the census information of the year 2008 is publicly shared (D 2008).

	A	B	C	D	E	F
1	Plot Code: TAM-01			Plot Name: Tambopata plot zero		
2	Tag No	Family	Species	D		
				2008		
3	509	Fabaceae	Stryphnodendron pulcherrimum		183	
4	541	Fabaceae	Tachigali polyphylla		139	
5	501	Fabaceae	Dialium guianense		173	
6	438	Fabaceae	Hymenaea parvifolia		188	
7	515	Arecaceae	Oenocarpus mapora		105	
8	501.1	Arecaceae	Socratea exorrhiza		166	
9	499	Arecaceae	Iriartea deltoidea		230	
10	541.1	Arecaceae	Iriartea deltoidea		233	
11	507B	Arecaceae	Iriartea deltoidea		195	
12	444	Arecaceae	Iriartea deltoidea		248	
13	541.3	Urticaceae	Pourouma guianensis		101	
14	440	Salicaceae	Casearia ulmifolia		222	
15	446	Salicaceae	Laetia procera		118	
16	507.1	Urticaceae	Pourouma cecropiifolia		174	

### 4.3.3 Plot Metadata

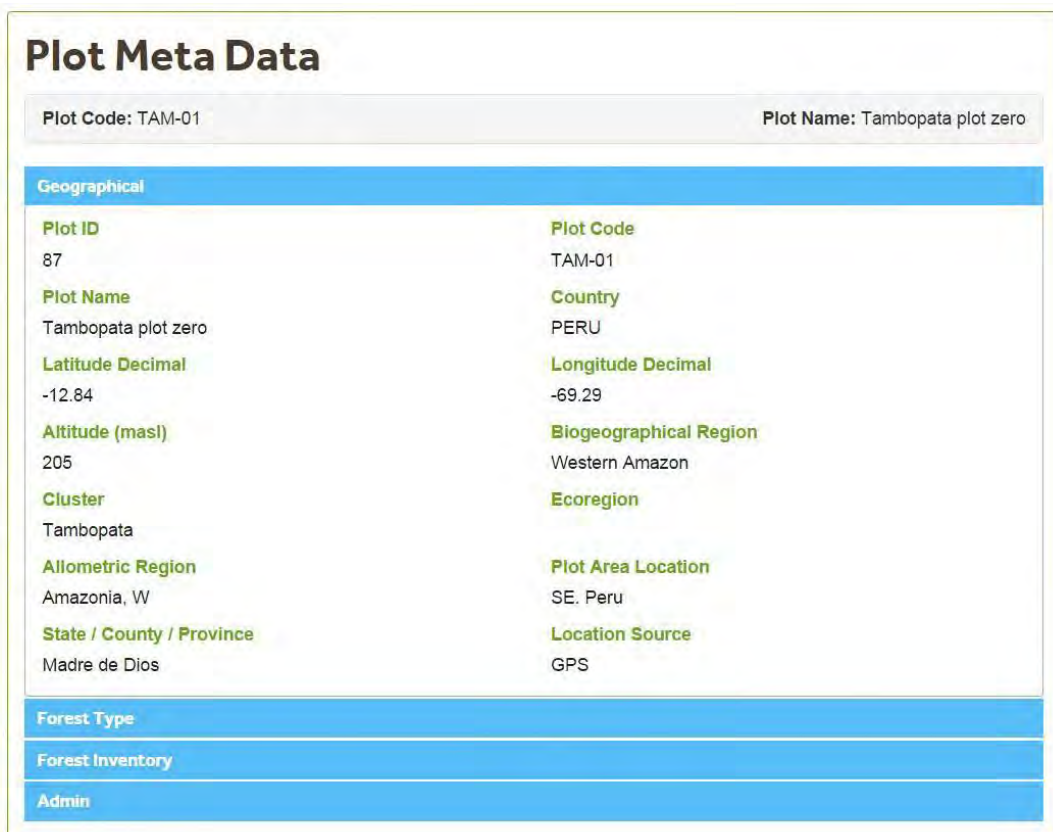
To view **Plot Metadata** of plots hosted in ForestPlots.net select the Plot Metadata from the plot dropdown box. In this section you can **View** only Metadata.

The [filter](#) (See 5.1), sort and [continent/country](#) (See 5.1) search functionality is available in this section.

Clicking on the **Plot Name** or on the **View Plot icon** to view more information.



The **Information sections** that are available in the **View Plot Section** are: Geographical, Forest Type, Forest Inventory and Admin.



### 4.3.3.1 Geographical Information\_Metadata

#### Plots

The Geographical Information section display information on the locality of the plot.

## Plot Meta Data

Plot Code: TAM-01 Plot Name: Tambopata plot zero

Geographical	
<b>Plot ID</b> 87	<b>Plot Code</b> TAM-01
<b>Plot Name</b> Tambopata plot zero	<b>Country</b> PERU
<b>Latitude Decimal</b> -12.84	<b>Longitude Decimal</b> -69.29
<b>Altitude (masl)</b> 205	<b>Biogeographical Region</b> Western Amazon
<b>Cluster</b> Tambopata	<b>Ecoregion</b>
<b>Allometric Region</b> Amazonia, W	<b>Plot Area Location</b> SE. Peru
<b>State / County / Province</b> Madre de Dios	<b>Location Source</b> GPS

**Forest Type**

**Forest Inventory**

The table below displays a list of items displayed and a brief description.

Item	Description
<i>PlotID</i>	Unique number assigned to the plot by the database during the first census upload.
<i>Plot Code</i>	Code with three letters and two numbers assigned to the plot (XXX-00).
<i>Plot Name</i>	Full name used to recognize a given plot.
<i>Country</i>	Country Name.
<i>Latitude decimal</i>	Latitude in decimal format.
<i>Longitude decimal</i>	Longitude in decimal format.
<i>Altitude</i>	Altitude above mean sea level (m asl).
<i>Biogeographical Region</i>	Biogeographical regions.
<i>Cluster</i>	Clusters are used to group plots that are considered to be in close proximity to one another.



<i>Ecoregion</i>	Ecoregion according to <a href="http://panda.org">panda.org</a> .
<i>Allometric Region</i>	Regions to estimate height using diameter as described in <a href="#">Feldpausch et al 2012</a> .
<i>Plot Area Location</i>	Name of the locality where the plot is found.
<i>State/Country/ Province</i>	Name of the State, Region or Department where the plot is found.
<i>Location Source</i>	Source of longitude and latitude values. If values were taken from a map select <b>measured</b> ; if a GPS was used to establish location select <b>GPS</b> .

### 4.3.3.2 Forest Type\_Metadata Plots

The **Forest Type** screen displays information on the characteristics of the forest where the plot is located.

## Plot Meta Data

Plot Code: TAM-01
Plot Name: Tambopata plot zero

Geographical	
Forest Type	
<p><b>Forest Moisture</b> Moist</p> <p><b>Forest Edaphic Type</b> Terra Firma</p> <p><b>Substrate Geology</b> Pre-Holocene</p>	<p><b>Forest Elevation</b> Lowland</p> <p><b>Forest Composition</b> Mixed forest</p> <p><b>Forest Status</b> Old-growth</p>
Forest Inventory	
Admin	

The table below describes the Items displayed on the Forest Type screen.

Item	Description
<i>Forest Moisture</i>	Classification according to <a href="#">Chave et al 2005</a> .
<i>Forest Elevation</i>	According to Holdridge Classification System.
<i>Forest Edaphic</i>	Terra Firme, Varzea, White Sand, Swamp or Other.
<i>Forest Composition</i>	Mixed, Palm, Liana or Monodominant.

<i>Substrate Geology</i>	Indicates the substrate type.
<i>Forest Status</i>	Indicates Forest Status in relation to anthropogenic disturbance.

### 4.3.3.3 Forest Inventory\_Metadata Plots

The **Forest Inventory** screen displays information about the set up of the plot.

Forest Inventory	
<b>Ground Area (ha)</b> 1	<b>Minimum Dimension (m)</b> 100
<b>Maximum Dimension (m)</b> 100	<b>Total Plot Edge (m)</b> 400
<b>Area Type</b> Actual Area (measured on ground)	<b>Average plot slope at 20m horizontal scale</b> 2 - 5 degree slope (Almost Flat)
<b>Minimum Tree Diameter Measured (mm)</b> 100	<b>Nearest Anthropogenic Edge (m)</b> 1200
<b>Fragment Size (ha)</b> 1000000	<b>Is Single</b> True
<b>Lianas Sample</b> True	<b>Location of Lianas Data</b> ForestPlots.net
<b>Local Climate Info Available</b> False	<b>Location of Local Climate Info</b>
<b>Local Soil Info Available</b> True	<b>Location of Local Soil Info</b>
<b>Plot Shape</b> Square / Rectangular	

The table below shows a list of the items displayed.

Item	Description
<i>Ground Area</i>	Total area of the plot (ha).
<i>Minimum dimension</i>	The length of the shortest plot edge (m).
<i>Maximum dimension</i>	The length of the longest plot edge (m).
<i>Total plot edge</i>	The total length of all plot edges (m).
<i>Area type</i>	Define the area as actual or projected measurement.
<i>Average Plot Slope</i>	Define the slope of the plot.

<i>Minimum tree diameter</i>	Minimum diameter of trees sampled (mm). This is usually 100mm.
<i>Nearest Anthropogenic Edge Start</i>	The straight-line distance to the nearest anthropogenic edge of the old-growth forest (m), at the time of the first census.
<i>Fragment Size Start</i>	The total area of the old-growth forest fragment (hectares), at the time of the first census (max value = 1,000,000 ha).
<i>Lianas Sample</i>	Indicates if lianas were also recorded and stored electronically (i.e. excel files) or in paper format.
<i>Location of Lianas Data</i>	Indicates the electronic and/or physical location of the lianas data.
<i>Local Climate Information available</i>	Indicates if local climate information is available and stored electronically (i.e. excel files) or in paper format. Climate information is currently not included in the database.
<i>Location of Local Climate Info</i>	Indicates the electronic and/or physical location of the local climate information
<i>Local Soil information available</i>	Indicates if local soil information is available and stored electronically (i.e. excel files) or in paper.
<i>Location of Local Soil Information</i>	Indicates the electronic and/or physical location of the local soil information.
<i>Plot Shape</i>	Indicates plot shape.

#### 4.3.3.4 Admin\_Metadata Plots

The Admin section displays the name of the Plot Database manager, who is the first point of contact for people interested in using the plot data for analysis and publications.

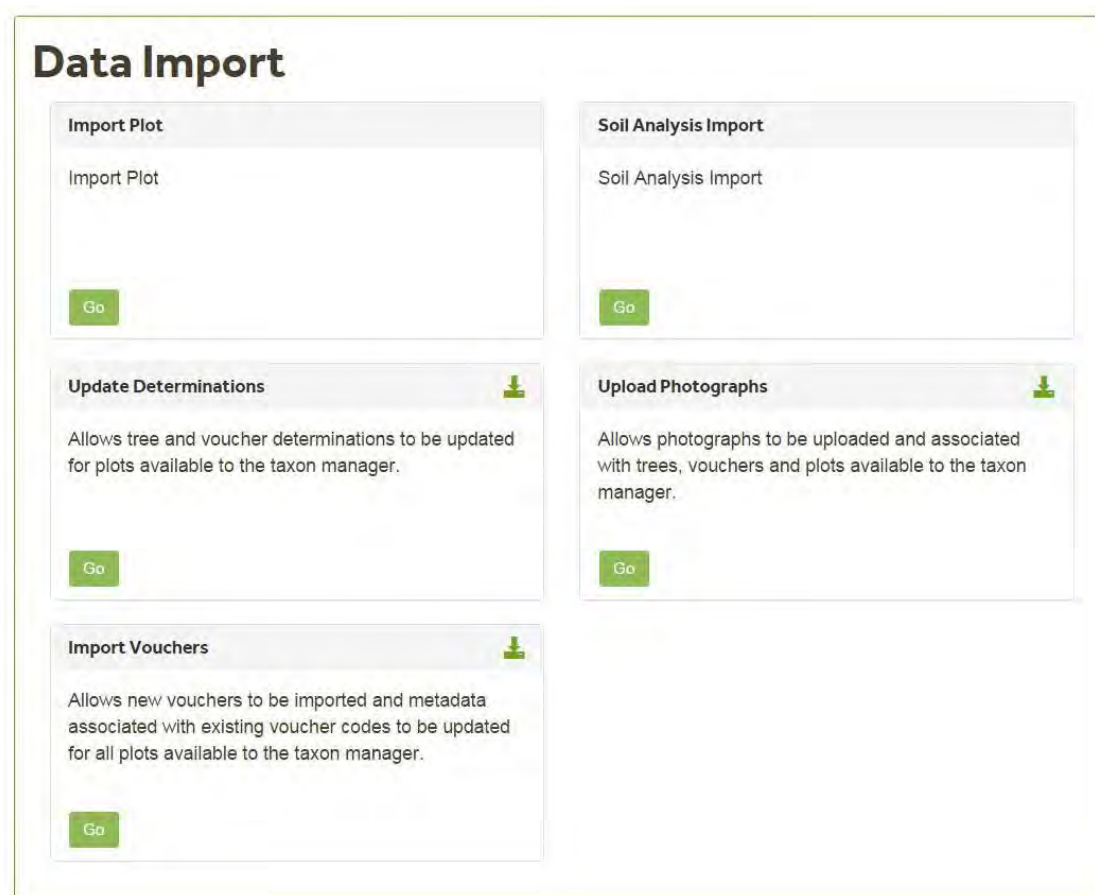
Plot Code: TAM-01	Plot Name: Tambopata plot zero
<b>Geographical</b>	
<b>Forest Type</b>	
<b>Forest Inventory</b>	
<b>Admin</b>	
<b>Plot Database Manager</b>	
Oliver L. Phillips (University of Leeds)	

## 4.4 Import Options

To see the different Import options click on the Data Import Icon (circled in red in the image below).



The different options available are shown in the image below. The options available will depend on your user type.



The table below indicates which user types have access to different Import categories.

Import Type	User type
<a href="#">Import Plot</a> (See 5.13)	Plot Editor
Soil Analysis Import	Soil Custodian
Update determinations	Taxonomy manager
Upload Photographs	Taxonomy manager
Import Vouchers	Taxonomy manager

## 4.5 Advanced Search

The advanced search feature is available to users who have access to plot data. The Advanced search uses information from the plots listed in the [My Plots](#) (See 4.3.1) section.

The Advanced Search Screen has 5 main display tabs. Clicking on a given tab will change the search options and will display different outputs. The tab names are: [Taxonomy](#) (See 4.5.1), [individuals](#) (See 4.5.2), [Photos](#) (See 4.5.3), [Herbariums](#) (See 4.5.4) and [plots](#) (See 4.5.5). Selecting the “Home” tab will take you back to the main ForestPlots.net site. Users with Soil Editing permissions have an extra tab: Soils.

In the Advanced search you can apply [Geographical](#) (See 4.5.8), [Taxonomic](#) (See 4.5.6) and [Environmental](#) (See 4.5.9) Filters.

The “Advanced search” works at “[Plot view](#) (See 5.6)” level. The list of plot views available will be displayed by clicking on the Plot\_View drop down box. Most plots only have a “Main plot view” but when there is a change in protocol it might be necessary to create a different view of the dataset. Changes in protocol include a changes in minimum diameter, and changes in the plot area.

All the outputs generated by the Advanced Search can be downloaded as CSV or Excel files. The images can be downloaded as zip files.

## 4.5.1 Taxonomy Tab

The taxonomy tab is the default screen of the Advanced search. To perform a search on your plots, you need to enter the [taxonomic information](#) (See 4.5.6) first and then a [geographical filter](#) (See 4.5.8). You can also search for individual [treeids](#) (See 4.5.7).

The outputs in the Taxonomy tab display:

Family, Genus, Species, Authority, Stem number, Median DBH, Mean DBH, Max DBH.

DBH summary values are only displayed for the first and last census options, and only include LIVING trees (ie not the ones that have just died).

Stem numbers include all LIVING trees for first/last census option, and all trees that have ever lived for multiple census option.



All the headers can be sorted in ascending or descending order. By default the results are ordered by Species name.

In the example below, we are searching for individuals in the family Moraceae. After typing Mor in the Family search box, the filter box displays all families with this characters.

After selecting Moraceae in the family search box, we added South America in the continent filter. Then clicked on the Search Button. The application will search in the plots located in South America for all individuals in the family Moraceae and will generate an output by species, showing the number of stems by species and the mean, median and maximum dbh. This output is based on information from the **Last census** and the “**Main plot view**”

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Moraceae	Batocarpus	Batocarpus amazonicus	(Ducke) Fosb.	1	394	394	394
Moraceae	Batocarpus	Batocarpus costancensis	Standley & L. O. Williams	1	230	230	230

You can change the Census filter by clicking in the Plot Census Drop Box. The options available are **First Census**, **LastCensus**, **All censuses** . You can change the [plot view](#) (See 5.5)used by clicking on the Plot View Drop Box.

**Advanced Search: Taxonomy**

Taxonomy Individuals Photos Herbarium Soils Plots

Moraceae South America State / County / Province

Genus Biogeographical Region Cluster

Species Country Plot Code

Tree ID Latitude Mir Latitude Ma

Longitude Iv Longitude Iv

Main Plot View Last Census First Census All Censuses

SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS

## 4.5.2 Individuals Tab

The results displayed in the Individuals tab are filtered by the Taxonomy and Geography categories. The user can select if the outputs are also restricted by census or plotview. The output displays all individuals that match the search criteria. The individuals tab produces a tree by tree output. The Individual tab output displays:

Plot Code, Country, Census year, Census no, Family, Genus, Species, Tag number, Diameter (D), Flag 1, Flag 2.

Clicking on the individuals tab will not change the filters applied in the taxonomy Tab. However the output produced will be different.

The output generated in the Individuals section can be [downloaded](#) (See 4.5.10) and used for analysis using R (using the Biomasa Package for R).



## Advanced Search: Individuals

Taxonomy Individuals Photos Herbarium Soils Plots

Moraceae South America State / County / Province

Genus Biogeographical Region Cluster

Species Country Plot Code

Tree ID Latitude Min Latitude Ma

Longitude N Longitude W

Main Plot View Last Census SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS

Plot Code	Plot View ID	Country	Census Date	Census No	Family Name	Genus Name	Full Species Name	Tag Number	DBH1	F1	F2
TAM-06	92	PERU	2011.6725	10	Moraceae	Maquira	Maquira guianensis	14	170	e	1
TAM-06	92	PERU	2011.6725	10	Moraceae	Castilla	Castilla ulei	21	143	a	1
TAM-06	92	PERU	2011.6725	10	Moraceae	Brosimum	Brosimum alicastrum	108	865	lq	1
TAM-06	92	PERU	2011.6725	10	Moraceae	Batocarpus	Batocarpus amazonicus	171	394	a	1
TAM-06	92	PERU	2011.6725	10	Moraceae	Ficus	Ficus schultesii	118	1980	efl	1

### 4.5.3 PhotosTab

The results displayed in this tab are filtered by the Taxonomy and Geography categories.

In the Photos tab, photographs associated with individual trees and vouchers would be displayed. Photos are displayed as thumbnails.

In the example below the user searched for photos of Moraceae *Brosimum lactescens* in South America.

## Advanced Search: Photos

Taxonomy Individuals **Photos** Herbarium Soils Plots

Family  State / County / Province

Biogeographical Region

Country

Tree ID  Latitude Min  Latitude Ma







Longitude W  Longitude E

Cluster

Plot Code

SEARCH SAVE IMAGES TO ZIP

NO. OF ROWS ▾

					
Moraceae Brosimum lactescens Context: voucher Plot Code: NCR-01 Country: BOLIVIA Voucher: PFF236 Tag Number: 18131	Moraceae Brosimum lactescens Context: voucher Plot Code: DOI-01 Country: BRAZIL Voucher: WC699 Tag Number: 288.1	Moraceae Brosimum lactescens Context: voucher Plot Code: MBT-04 Country: BOLIVIA Voucher: AMM20930 Tag Number: 128	Moraceae Brosimum lactescens Context: voucher Plot Code: YAN-02 Country: PERU Voucher: AMM2857 Tag Number: 203	Moraceae Brosimum lactescens Context: voucher Plot Code: TAM-01 Country: PERU Voucher: AG57691 Tag Number: 393	Moraceae Brosimum lactescens Context: voucher Plot Code: SUC-03 Country: PERU Voucher: AMM1818 Tag Number: 504

Photos can be downloaded individually or all photos displayed in a screen are saved to a zip file. In addition to the zip file of photos, a .csv file is also downloaded with metadata about the photos.

The photo information comes from the uploaded metadata about the photos or from voucher data to which the photo is linked in the database.

Photo names are generated when the photos are downloaded, the file for each photo should be named in the following manner:

- If it is linked to a voucher, then the name should be VoucherCode\_PhotoContent.jpg;
- if it is linked to a tree in the field, the name should be TreeID\_PhotoContent.jpg;
- if it is linked to a tree in the field, then the name should be PlotCode\_TagNumber\_Photocontent.jpg.

## 4.5.4 Herbarium Tab

The Herbarium tab displays a list of the Vouchers collected by plot and country and indicates if there are photographs associated with a particular voucher.

The results displayed in this tab are filtered by the Taxonomy and Geography categories.

The Herbarium tab displays:

Voucher, Herbarium Code, Family, Genus, Species, Authority, Plot code, Country, Photos.

In the example below the user searched for all the vouchers with a current determination of *Brosimum lactescens* (Moraceae) found in South America .

### Advanced Search: Herbarium

Taxonomy
Individuals
Photos
Herbarium
Soils
Plots

NO. OF ROWS ▾

Voucher Code	Herbarium Code	Family	Genus	Species	Authority	Plot Code	Country	Photograph
AGP1767	USZ	Moraceae	Brosimum	Brosimum lactescens	(S. Moore) C. C. Berg	LSL-02	BOLIVIA	AGP1767_voucher
AGP1936	USZ	Moraceae	Brosimum	Brosimum lactescens	(S. Moore) C. C. Berg	LSL-02	BOLIVIA	AGP1936_voucher
AGP2240	USZ	Moraceae	Brosimum	Brosimum lactescens	(S. Moore) C. C. Berg	RET-05	BOLIVIA	AGP2240_voucher
AGP2405	USZ	Moraceae	Brosimum	Brosimum lactescens	(S. Moore) C. C. Berg	RET-05	BOLIVIA	AGP2405_voucher

## 4.5.5 Plots Tab

The results displayed in this tab are filtered by Geographical and environmental categories.

The output in the Plot tab displays:

Plot code, Plot name, PI, Country, Altitude, Latitude, Longitude, Area, Forest type (terra firme etc column), Forest status (old-growth etc column), Stem number.

Stem number is calculated on the number of individuals that are alive, including trees with stem broken and which have a flag1=k and dbh=0. Stem counts are not by ha.

In the example below the user filtered information by continent and country, selecting South America and Peru. All other default options unmodified.

Plot Code	Plot Name	PI	Country	Altitude (masl)	Latitude Decimal	Longitude Decimal	Ground Area (ha)	Forest Edaphic Type	Forest Status	Stem Number
CLT-08	Comunidad La Torre MB	Oliver Phillips	PERU	225	-12.82552819	-69.26108363	0.1	Terra Firma	Old-growth	229
CLT-01	Comunidad La Torre	Oliver Phillips	PERU	229	-12.8187506524684	-69.3505616852152	0.1	Terra Firma	Logged	233

## 4.5.6 Taxonomy Filters

In this section we'll explain how the Taxonomic filter works. The taxonomical restriction options are Family, Genus and Species.

To select a filter item in the Family, Genus and Species Boxes type the information in the search box. After typing 2/3 characters, items that include the typed characters will be displayed. For example, after typing "fab " in the family search box "Fabaceae" will be displayed for selection.



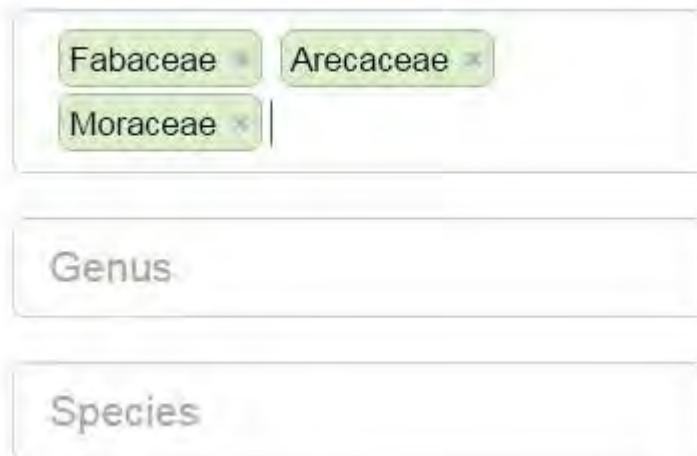
fab|

**Fabaceae**

Genus

Species

In the Family, Genus and species boxes multiple items can be included. To unselect an item click on the x.



Fabaceae x Arecaceae x

Moraceae x

Genus

Species

### How to use the taxonomic filter?

To perform a search at family level, enter the families you are interested in on the Family search box. Then add a geographical filter and click on search. In the example below the user is searching for Moraceae and Arecaceae in South America. The Taxonomy tab output displays all the species in those families.



### Advanced Search: Taxonomy

Taxonomy | Individuals | Photos | Herbarium | Soils | Plots

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Arecaceae	Acrocomia	Acrocomia aculeata	(Jacq.) Jacq.Lodd. ex C. Martius	24	224	219	330
Arecaceae	Acrocomia	Acrocomia totai	C. Martius in Orb.	1	178	178	178

To perform a Search at Genus level, enter the genus/genera you are searching for in the Genus box. Then add a Geographical filter and click on search. In the example below the user searched for the Genus Attalea in South America.

### Advanced Search: Taxonomy

Taxonomy | Individuals | Photos | Herbarium | Soils | Plots

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Arecaceae	Attalea	Attalea butyracea	(Mutis ex L. f.) W. Boer	631	282	305	700
Arecaceae	Attalea	Attalea cephalotes	Poeppig ex C. Martius	75	300	309	510

To perform a Search at Species level (full binomial: genus and specific epithet) , first enter the genus (genera) in the Genus box and the specific epithet (s) in the species box. Only the epithets associated with the genera entered in the

Genus box will be available for search in the Species box. In the example the user searched for *Brosimum guianense* in South America. The user first selected *Brosimum* in the genus box and then typed "gui" in the species box, the option displayed in this case is *Brosimum guianense*. (Note output is based on the plots available to a given user).

### Advanced Search: Taxonomy

Taxonomy
Individuals
Photos
Herbarium
Soils
Plots

Family

South America

State / County / Province

Brosimum

Biogeographical Region

Cluster

Brosimum guiane...

Country

Plot Code

Tree ID

Latitude Min

Latitude Ma

Longitude W

Longitude E

Main Plot View

Last Census

SEARCH

SAVE AS CSV

SAVE AS EXCEL

NO. OF ROWS

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Moraceae	Brosimum	Brosimum guianense	(Aublet) Huber	547	185	209	770

The taxonomy filter does not return any results if you filter by family and genus and the genus is not included in the family.

## 4.5.7 TreeID Search

In the Advanced Search Taxonomy, individual trees can be search for using their TreeID, the tree unique identifier. To find information for multiple TreeIDs, enter this information in a comma separated format. This information is available on the plot dumps or in the [View tree](#) (See 5.3) screen. In the example below the user is searching for TreeIDs 538845, 538764, 538640 which are found in plot NCR-01 (note this information is provided for example purposes only).

Taxonomy Individuals Photos Herbarium Soils Plots

Family  Continent  State / County / Province

Genus  Biogeographical Region  Cluster

Species  Country

538845, 538764, 538640

Main Plot View  Last Census  SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS

Plot Code	Plot View ID	Country	Census Date	Census No	Family Name	Genus Name	Full Species Name	Tag Number	DBH1	F1	F2
NCR-01	961	BOLIVIA	1995.666	1	Salicaceae	Casearia	Casearia indet	18179	178	a	1
NCR-01	961	BOLIVIA	1995.666	1	Moraceae	Brosimum	Brosimum acutifolium	18139	169	a	1
NCR-01	961	BOLIVIA	1995.666	1	Moraceae	Brosimum	Brosimum lactescens	18131	108	a	1

## 4.5.8 Geographical Filters

The Geographical filters options are: Continent, Biogeographical region, country, state, cluster, plot code, latitude and longitude.

The soil and plots tabs also include Forest type categories.

To apply a categorical filter, type the information in the search box. After typing 2/3 characters the system will search for items that include the typed characters.

The state, latitude and longitude boxes are free text.

### How to use the geographical filters?

To search by Continent, enter the continent(s) you are searching for and then click next. The results displayed will vary depending on the tab. As Continent is one of the "main" filters the user does not need to add another geographical filter for it to work. In the example below the user entered South America as search filter in the Taxonomy tab. The same functionality applies to Biogeographical Region, Country, Cluster and Plot Code.



Taxonomy Individuals Photos Herbarium Soils Plots

Family  South America  State / County / Province

Genus  Biogeographical Region  Cluster

Species  Country  Plot Code

Tree ID  Latitude Min  Latitude Ma:

Longitude M  Longitude M

Main Plot View  Last Census  SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Achariaceae	Carpotroche	Carpotroche brasiliensis		1	64	64	64
Achariaceae	Lindackeria	Lindackeria paludosa	(Benth.) Benth.Gilg in Engl. & Prantl	2	139	139	158

To search by State/County/Province, type the name of the location you're looking for and then add another geographical constraint (country, plot, or continent). In the example below the user searched for the province of Madre de Dios in Peru. The State/Country/Province information is not displayed on of the screens but can be found when downloading the plots tab output.

Taxonomy Individuals Photos Herbarium Soils Plots

Family  South America  Madre de Dios

Genus  Biogeographical Region  Cluster

Species  Country  Plot Code

Tree ID  Latitude Min  Latitude Ma:

Longitude M  Longitude M

Main Plot View  Last Census  SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS

Family	Genus	Species	Authority	NumberOfIndividuals	Median DBH	Mean DBH	Max DBH
Achariaceae	Lindackeria	Lindackeria paludosa	(Benth.) Benth.Gilg in Engl. & Prantl	1	158	158	158
Anacardiaceae	Tapirira	Tapirira guianensis	Aublet	2	286	286	440

To search by latitude and longitude enter the minimum and maximum latitude values in decimal format. Values can be entered in all maximum and minimum search boxes or just one. In the example below, the user searched for plots with Minimum latitude of -15 located in Peru.

### Advanced Search: Plots

Taxonomy Individuals Photos Herbarium Soils **Plots**

Forest Moisture

Area Type

Continent

Forest Edaphic Type

Altitude Min

Altitude Max

Biogeographical Region

Substrate Geology

Plot Area Min

Plot Area Max

PERU

Forest Elevation

State / County / Province

-15

Latitude Max

Forest Composition

Cluster

Longitude Min

Longitude Max

Forest Status

Plot Code

SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS ▾

Plot Code	Plot Name	PI	Country	Altitude (masl)	Latitude Decimal	Longitude Decimal	Ground Area (ha)	Forest Edaphic Type	Forest Status	Stem Number	
TAM-06	Tambopata plot four-testing fixed bugs 2015	Abel Monteagudo; Alwyn Gentry; Oliver Phillips; Rodolfo Vasquez Martinez; Terry Erwin; Tim Baker	PERU	200	-12.8385905	-69.29597225	1	Former floodplain	Old-growth	659	<a href="#">Q</a>
RCS-05	Reserva Comunal El Sira - Llanero Amazonico	Abel Monteagudo	PERU	251	-9.617280987	-74.92966729	1	Terra Firma	Old-growth	595	<a href="#">Q</a>

## 4.5.9 Environmental Filters

The environmental filters options are: Forest Edaphic, Forest Status, Forest Moisture, Altitude and Plot Area.

To select a filter item in the Environmental Filters. type the information you're searching for. After typing 3 characters the system will search for items that include the typed characters.

To limit a search by altitude and plot area use the minimum and maximum values boxes.

### How to use the environmental filters?

To search by Forest Edaphic category (as found in the plot metadata section) type the category in the text box. After typing 2 characters the items that include the typed characters will be displayed. In the example below, after typing "TE" the drop down box lists the categories with these characters.

After selecting the Forest Edaphic categories you need to add a geographical restriction. In the example below the user searches for Terra Firma plots located in Peru.

### Advanced Search: Plots

Taxonomy Individuals Photos Herbarium Soils **Plots**

Forest Moisture:  (Dropdown: Terra Firma, White sand)

Area Type:

Continent:

Altitude Min:  Altitude Max:

Biogeographical Region:

Plot Area M:  Plot Area M:

Country:

Forest Elevation:

State / County / Province:

Latitude Min:  Latitude Max:

Forest Composition:

Cluster:

Longitude W:  Longitude E:

Forest Status:

Plot Code:

SEARCH SAVE AS CSV SAVE AS EXCEL

NO. OF ROWS ▾

Plot Code	Plot Name	PI	Country	Altitude (masl)	Latitude Decimal	Longitude Decimal	Ground Area (ha)	Forest Edaphic Type	Forest Status	Stem Number
RCS-05	Reserva Comunal El Sira - Llano Amazonico	Abel Monteagudo	PERU	251	-9.617280987	-74.92966729	1	Terra Firma	Old-growth	595

To limit the search based on altitudinal ranges enter the minimum and maximum altitude values (in meters) on the boxes. You can enter both minimum and maximum altitude values or limit the search by just one factor. To limit the search based on plot area size enter the minimum and maximum areas (in ha) and one of the geographical restrictions (Continent, Country, or Plot Code). In the example below the user searched for plots with a minimum area of 1ha and a maximum area of 1.5ha found at altitudes above 100 masl and in Terra Firma forests.

The screenshot shows the 'Plots' search interface. The search criteria are as follows:

- Forest Moisture: (empty)
- Area Type: (empty)
- Geographical Region: South America
- Forest Type: Terra Firma
- Altitude Min: 100
- Altitude Max: (empty)
- Biogeographical Region: (empty)
- Substrate Geology: (empty)
- Area Min: 1
- Area Max: 1.5
- Country: (empty)
- Forest Elevation: (empty)
- State / County / Province: (empty)
- Latitude Min: (empty)
- Latitude Max: (empty)
- Forest Composition: (empty)
- Cluster: (empty)
- Longitude Min: (empty)
- Longitude Max: (empty)
- Forest Status: (empty)
- Plot Code: (empty)

Buttons: SEARCH, SAVE AS CSV, SAVE AS EXCEL

Table with 12 columns: Plot Code, Plot Name, PI, Country, Altitude (masl), Latitude Decimal, Longitude Decimal, Ground Area (ha), Forest Edaphic Type, Forest Status, Stem Number, and a search icon.

Plot Code	Plot Name	PI	Country	Altitude (masl)	Latitude Decimal	Longitude Decimal	Ground Area (ha)	Forest Edaphic Type	Forest Status	Stem Number	
RCS-05	Reserva Comunal El Sira - Llano Amazonico	Abel Monteagudo	PERU	251	-9.617280987	-74.92966729	1	Terra Firma	Old-growth	595	

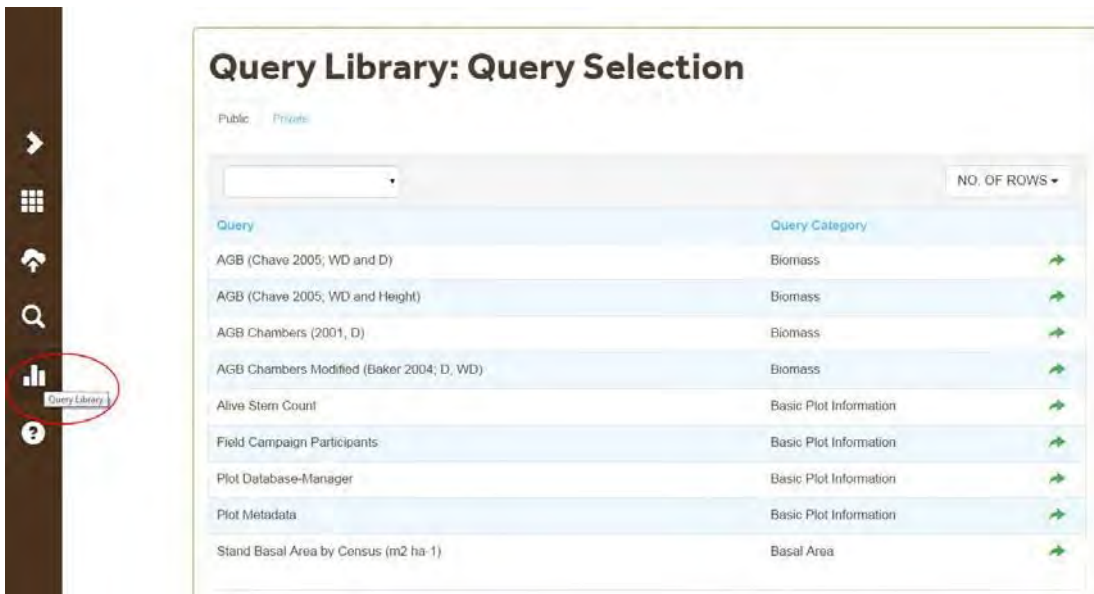
## 4.5.10 Advanced Search Downloads

Data outputs are downloaded as csv or excel files.

Photos can be downloaded individually or in a zip folder. Photos have an associated file with metadata on the photo.

## 4.6 Query library

The query library produces different types of outputs using public or private (My Plots) plots.



The Public query library uses public Plot-Census information and includes the following categories:

- Basal Area
- Basic Plot Information
- Biomass

The Private Query Library provides summarized information in the following categories.:

- Basic Plot Information
- Biomass
- Basal Area
- Wood Productivity
- Wood density
- Turnover
- Tree Diversity
- Growth rate
- Quality Control

Note: Not all sections have queries released. It is only possible to run one query at a time.

---

To run a query select the type of data you want to use by clicking on the **Public** or **Private** Tab.

A list of all queries available will be displayed.



## Query Library: Query Selection

Public Private

NO. OF ROWS ▾

Query	Query Category	
AGB (Chave 2005; WD and D)	Biomass	➔
AGB (Chave 2005; WD and Height)	Biomass	➔
AGB Chambers (2001, D)	Biomass	➔
AGB Chambers Modified (Baker 2004; D, WD)	Biomass	➔
Alive Stem Count	Basic Plot Information	➔
Field Campaign Participants	Basic Plot Information	➔
Plot Database-Manager	Basic Plot Information	➔
Plot Metadata	Basic Plot Information	➔
Stand Basal Area by Census (m2 ha-1)	Basal Area	➔

You can filter the queries by selecting a query category from the drop down menu. Select a Query by clicking on the arrow icon.

## Query Library: Query Selection

Public Private

NO. OF ROWS ▾

Query	Query Category	
Basal Area		
Basic Plot Information		
Biomass	Biomass	➔
Error Check		
Growth Rate	Biomass	➔
Lianas		
Misc	Biomass	➔
Mode Of Death		
Tree Diversity	Biomass	➔
Tree Height		
Turnover		
Wood Density	Basic Plot Information	➔
Wood Productivity	Basic Plot Information	➔
Plot Database-Manager	Basic Plot Information	➔
Plot Metadata	Basic Plot Information	➔
Stand Basal Area by Census (m2 ha-1)	Basal Area	➔

After selecting a Query, the Wizard will display a **Summary** of the query. Click Next to continue to the Plot Selection screen.

## Query Library: Query Summary

Name: Field Campaign Participants

Query Category: Basic Plot Information

Name of participants involved in the organization and data collection of the Field Campaign. Includes: PlotID, PlotCode, PlotName, CensusNo, MeanDecimalDate, First Name, Last Name, Participant Category, Project Name and Project Acronym.

BACK

NEXT

In the Plot Selection Screen you can add the Plots by clicking on the adjacent plus icon. In the Public Library you can only select 10 Plots/Plot views at once. In the Private Query library, some queries allow the selection of all plots listed in My Plots (this depends on the computing requirements of the query). Once you have selected the plots you are interested in click Next.

## Query Library: Plot Selection

Name: AGB (Chave 2005; WD and Height)

Query Category: Biomass

REMOVE ALL

NO. OF ROWS ▾

Plot Code	Plot Name	Plot View Name	
ALC-01	Alter do Chão plot 1	Main Plot View	-
ALP-01	Allpahuayo A	Main Plot View	-

1

Filter

Continent ▾

Country ▾

FILTER

ADD ALL

NO. OF ROWS ▾

Plot Code	Plot Name	Plot View Name	
ALC-01	Alter do Chão plot 1	Main Plot View	Added
ALF-01	Alta Floresta - plot 1	Main Plot View	+
ALF-02	Alta Floresta - plot 2	Main Plot View	+

The query output will be displayed in the Results Screen. You can save the output to Excel or CSV. After viewing and downloading the output click on Finish.

## Query Library: Results

Name: AGB (Chave 2005; WD and Height)

Query Category: Biomass

NO. OF ROWS ▾

PlotCode	PlotName	PlotViewname	CensusNo	IntervalStartDate	AGB	Na
ALC-01	Alter do Chão plot 1	Main Plot View	1	2008.4195	11.976	112
ALP-01	Allpahuayo A	Main Plot View	6	2008.164	269.382	561
ALP-01	Allpahuayo A	Main Plot View	7	2009.099	271.203	586
ALP-01	Allpahuayo A	Main Plot View	8	2010.164	277.646	588
ALP-01	Allpahuayo A	Main Plot View	9	2011.1715	270.23	589

1

BACK

SAVE TO EXCEL

SAVE TO CSV

FINISH



## 5. Commands

In the [Plots](#) (See 4.3) section, the commands available appear to the right of each plot. The commands available depend on the plot type and on the user permissions.

You can also [filter and sort](#) (See 5.1) information by Plot Code, Name, country and Continent.

### Commands include:

Viewing/editing plot information, uploading, downloading, data tools and plot status.

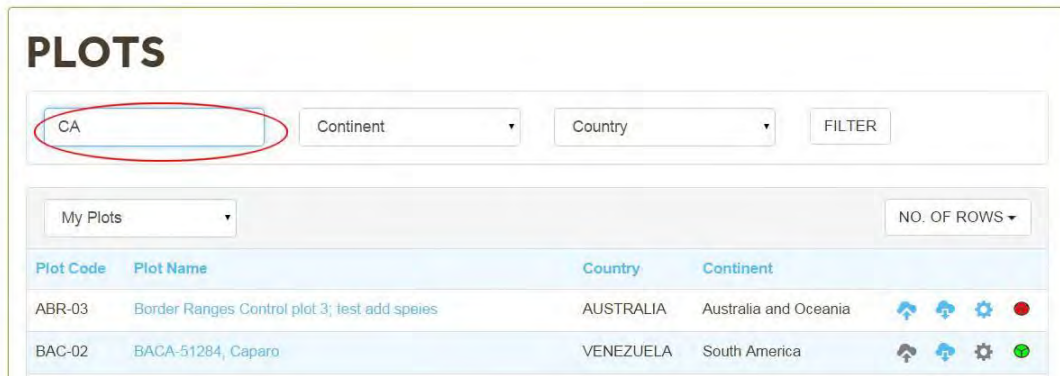
The screenshot shows the 'PLOTS' interface. At the top, there is a search box and filters for 'Continent' and 'Country', with a 'FILTER' button. Below this is a 'My Plots' dropdown and a 'NO. OF ROWS' dropdown. The main part of the interface is a table with the following data:

Plot Code	Plot Name	Country	Continent	Actions
TEG-45	Bug 32 testing			View Plot, Upload, Download, Data tools, Plot status
TEG-35	test plot, test editing planar area	BRAZIL	South America	Upload, Download, Data tools, Plot status
TEG-23	test, Steep (>20 degree slope)	PERU	South America	Upload, Download, Data tools, Plot status

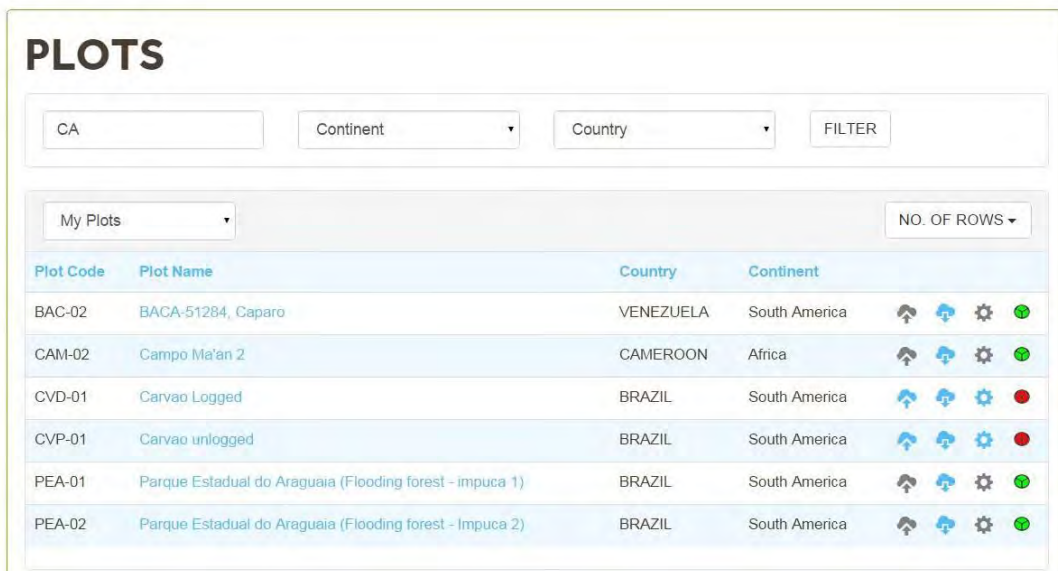
### 5.1 Filter and Sorting plots

You can filter the information and sort it by Plot Code, Plot Name or Country. You can filter information using the search box. After entering the term that you are searching for, then click the filter button. This screen will now display all the plots with the term entered.

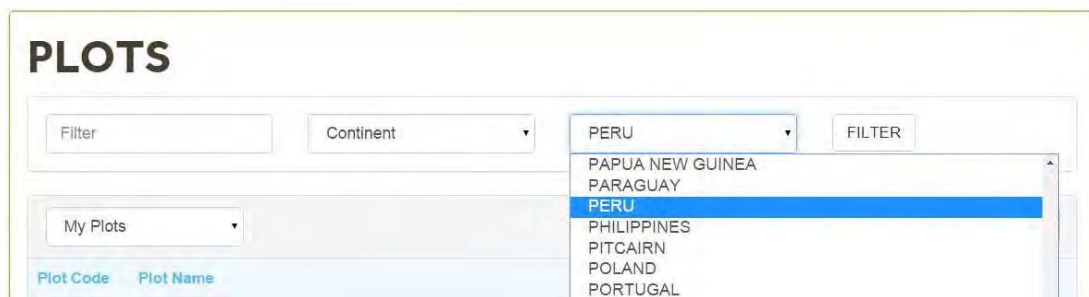
In the example below we searched for public plots with the characters "Ca" by typing this characters in the Filter text box.



After clicking on the filter icon, only the plots with "ca" in the plotcode or plot name are displayed.















To filter Plots by Country and/or Continent select an item from the drop down box at the top of the screen and click (symbol). In the example below we are searching for all public plots in Peru.



After selecting Peru from the Country dropdownbox and clicking on the filter button the screen will display all the public plots in this country.

Filter  Continent  FILTER

My Plots  NO. OF ROWS

Plot Code	Plot Name	Country	Continent	
RCS-05	Reserva Comunal El Sira - Llano Amazonico	PERU	South America	   
TAM-06	Tambopata plot four- testing fixed bugs 2015	PERU	South America	   
TEG-23	test, Sleep (>20 degree slope)	PERU	South America	   

To remove the filter, delete the filter term or de-select the option and click the filter button again.

### Sort

You can sort the plot list in ascending or descending alphabetical order by clicking on either Plot Code, Plot Name, Country or Continent. By default the plot list is ordered alphabetically based on Plot Code. The screen below shows the public plots sorted by Plot Name.

My Plots  NO. OF ROWS

Plot Code	Plot Name	Country	Continent	
BAC-02	BACA-51284, Caparo	VENEZUELA	South America	   
ABR-03	Border Ranges Control plot 3, test add speies	AUSTRALIA	Australia and Oceania	   
TEG-45	Bug 32 testing			   
CAM-02	Campo Ma'an 2	CAMEROON	Africa	   
CVD-01	Carvao Logged	BRAZIL	South America	   
CVP-01	Carvao unlogged	BRAZIL	South America	   

## 5.2 Plot Details

Clicking on the Plot Name, allows you to view more information on that plot.

**PLOTS**

Search:  Continent:  Country:  FILTER

My Plots  NO. OF ROWS

Plot Code	Plot Name	Country	Continent	
TEG-23	test_ Steep (>20 degree slope)	PERU	South America	
TEG-35	test plot, test editing planar area	BRAZIL	South America	
TEG-45	Bug 32 testing			

After clicking on the name the **View Plot** Screen will be displayed. This screen has different tabs. For plots in the "My Plots" list the tabs available are: Plot Details, Vegetation, Censuses, Plot views, Subplots, Participants, Institutions, Layout, Vouchers, Operations, Climate summary statistics and photos.

To Edit the metadata of a plot click on the **Edit Button** . If you have plot edit rights you can edit information on the geographical location, forest type, forest inventory and sampling approaches. If you do not have edit rights the **Edit Button** will not be displayed.

**View Plot** EDIT DELETE

Plot Details  Vegetation  Censuses  Plot Views  Subplots  Participants  Institutions  Layout  Vouchers

Plot Code: TEG-35 Plot Name: test plot, test editing planar area

**Geographical**

<b>Plot ID</b> 3196	<b>Plot Code</b> TEG-35
<b>Plot Name</b> test plot, test editing planar area	<b>Country</b> BRAZIL
<b>Latitude Decimal</b>	<b>Longitude Decimal</b>
<b>Altitude (masl)</b>	<b>Biogeographical Region</b>
<b>Cluster</b> test plot 2	<b>Ecoregion</b>
<b>Allometric Region</b> Amazonia, W	<b>Plot Area Location</b>
<b>State / County / Province</b>	<b>Location Source</b>

**Forest Type**

**Forest Inventory**

**Soil Metadata**

**Admin**

The **Modify Plot** main screen will display the **Geographical Information**. After editing information please save any changes. The other tabs will be displayed below.

**Modify Plot** [SAVE] [Cancel]

Plot Code: TEG-45 Plot Name: Bug 32 testing

**Geographical**

<b>Plot ID</b> 3198	<b>Plot Code</b> TEG-45
<b>Plot Name</b> Bug 32 testing	<b>Country</b> ALBANIA
<b>Latitude Decimal</b> 12	<b>Longitude Decimal</b> 11
<b>Altitude (masl)</b>	<b>Biogeographical Region</b>
<b>Cluster</b>	<b>Ecoregion</b>
<b>Allometric Region</b>	<b>Plot Area Location</b>
<b>State / County / Province</b>	<b>Location Source</b>

**Forest Type**

The Modify Plots sections are

- [Geographical information](#) (See 5.2.1)
- [Forest Type](#) (See 5.2.2)
- [Forest inventory](#) (See 5.2.3)
- [Soil Metadata](#) (See 5.2.4)
- [Admin](#)(See 5.2.5)

## 5.2.1 Geographical Information

The **Geographical Information** section displays information on the locality of the plot.

## Modify Plot

Plot Code: TEG-45
Plot Name: Bug 32 testing

Geographical

<p><b>Plot ID</b> 3198</p> <p><b>Plot Name</b> <input type="text" value="Bug 32 testing"/></p> <p><b>Latitude Decimal</b> <input type="text" value="12"/></p> <p><b>Altitude (masl)</b> <input type="text"/></p> <p><b>Cluster</b> <input type="text" value=""/> <span style="font-size: small;">+ ?</span></p> <p><b>Allometric Region</b> <input type="text"/></p> <p><b>State / County / Province</b> <input type="text"/></p>	<p><b>Plot Code</b> TEG-45</p> <p><b>Country</b> <input type="text" value="ALBANIA"/></p> <p><b>Longitude Decimal</b> <input type="text" value="11"/></p> <p><b>Biogeographical Region</b> <input type="text"/> <span style="font-size: small;">?</span></p> <p><b>Ecoregion</b> <input type="text"/></p> <p><b>Plot Area Location</b> <input type="text"/></p> <p><b>Location Source</b> <input type="text"/></p>
---	--

Forest Type

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available on **My Plots** ).

Item	Description	How to edit?
PlotID	Unique number assigned to the plot by the database during the first census upload.	This number can not be edited.
Plot Code	Code with three letters and two numbers assigned to the plot (XXX-00). The plot code must be entered in capitals and each plot code is unique. This code is assigned during the upload of the first census and cannot be updated. If you need to change the plot code please contact the <a href="#">database manager</a> .	The Plot Code can not be edited.
Plot Name	Full name used to recognize a given plot.	Type information in the text box.
Country	Country Name.	Select item from drop down box.



Latitude decimal	Latitude in decimal format	Type information in the text box
Longitude decimal	Longitude in decimal format	Type information in the text box
Altitude	Altitude above mean sea level (m asl). Decimal values are not accepted.	Type information in the text box.
Biogeographical Region	Biogeographical regions according to the <a href="#">TDWG</a> .	Select item from drop down box.
Cluster	Clusters are used to group plots that are considered to be in close proximity to one another.	Select item from drop down box  If you need to add a cluster name, follow the <a href="#">Add Cluster</a> (See 5.2.1.1) Instructions.
Ecoregion	Ecoregion according to <a href="#">panda.org</a> .	Select item from drop down box.
Allometric Region	Regions to estimate height using diameter as described in <a href="#">Feldpausch et al 2012</a> .	Select item from drop down box.
Area	Name of the State, Region or Department where the plot is found.	Type information in the text box.
State	Name of the locality where the plot is found.	Type information in the text box.
Location Source	Source of longitude and latitude values. If values were taken from a map select measured; if a GPS was used to establish location select GPS .	Select item from drop down box.

### 5.2.1.1 Add Cluster

To add a cluster click on the + sign next to the Cluster text box. *Note* : this option is only available on Edit Mode.



Then type the name of the Cluster in the text box. Then Click enter. This will save the new cluster name and associated with the Plot you're editing.

Please check the spelling of the cluster. Cluster names can not be deleted after they are saved because they might be selected by other users.



Geographical	
<b>Plot ID</b> 3196	<b>Plot Code</b> TEG-35
<b>Plot Name</b> test plot, test editing planar area	<b>Country</b> BRAZIL
<b>Latitude Decimal</b>	<b>Longitude Decimal</b>
<b>Altitude (masl)</b>	<b>Biogeographical Region</b>
<b>Cluster</b> Cluster Test	<b>Ecoregion</b>
<b>Allometric Region</b> Amazonia, W	<b>Plot Area Location</b>
<b>State / County / Province</b>	<b>Location Source</b>

## 5.2.2 Forest Type

The **Forest Type** screen displays information on the characteristics of the forest where the plot is located.



## Modify Plot

**Plot Code:** TEG-35 **Plot Name:** test plot, test editing planar area

---

Geographical

Forest Type

**Forest Moisture** ?

**Forest Elevation** ?

**Forest Edaphic Type**

**Forest Composition**

**Substrate Geology**

**Forest Status** ?

The table below describes the Items displayed on the Forest Type tab of the View/Modify/New Plot screen. Edit option only available in My Plots.

Item	Description	How to Edit?
<i>Forest Moisture</i>	Classification according to <a href="#">Chave et al 2005</a> .	Select from the drop down list.
<i>Forest Elevation</i>	According to Holdridge Classification System.	Select from the drop down list.
<i>Forest Edaphic</i>	Terra Firme, Varzea, White Sand, Swamp or Other.	Select from the drop down list.
<i>Forest Composition</i>	Mixed, Palm, Liana or Monodominant.	Select from the drop down list.
<i>Substrate Geology</i>	Indicates the substrate type.	Select from the drop down list.
<i>Forest Status</i>	Indicates Forest Status in relation to anthropogenic disturbance.	Select from the drop down list.

## 5.2.3 Forest Inventory

The **Forest Inventory** screen displays information about the set up of the plot.

The screenshot shows a web form titled "Forest Inventory" with a blue header. The form is organized into two columns of input fields. Each field has a green question mark icon to its right. The fields include:

- Ground Area (ha):** Text box containing the value "1".
- Projected Planar Area (ha):** Text box containing the value "1.25".
- Minimum Dimension (m):** Empty text box.
- Maximum Dimension (m):** Empty text box.
- Total Plot Edge (m):** Empty text box.
- Area Type:** Dropdown menu.
- Average plot slope at 20m horizontal scale:** Dropdown menu with the selected option "2 - 5 degree slope (Almost Flat)".
- Minimum Tree Diameter Measured (mm):** Empty text box.
- Nearest Anthropogenic Edge (m):** Empty text box.
- Fragment Size (ha):** Empty text box.
- Is Single:** A small square checkbox.
- Lianas Sample:** Text box containing "Location of Lianas Data".
- Local Climate Info Available:** Text box containing "Location of Local Climate Info".
- Local Soil Info Available:** Text box containing "Location of Local Soil Info".
- Plot Shape:** Dropdown menu.

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available in My Plots).

Item	Description	How to Edit?
Ground Area (ha)	Total area of the plot (ha).	Type information in the text box.
Projected Planar Area (ha)	Projected planar area (as seen for example from a satellite) with respect to the plot slope (ha).	Type information in the text box.
Minimum dimension	The length of the shortest plot edge (m).	Type information in the text box.
Maximum dimension	The length of the longest plot edge (m).	Type information in the text box.
Total plot edge	The total length of all plot edges (m).	Type information in the text box.

Area type	Define the area as actual or projected measurement.	Select from the drop down box.
Average Plot Slope	Define the slope of the plot.	Select from the drop down box.
Minimum tree diameter	Minimum diameter of trees sampled (mm). This is usually 100mm.	Type directly into the text box.
Nearest Anthropogenic Edge Start	The straight-line distance to the nearest anthropogenic edge of the old-growth forest (m), at the time of the first census.	Type directly into the text box.
Fragment Size Start	The total area of the old-growth forest fragment (hectares), at the time of the first census (max value = 1,000,000 ha).	Type directly into the text box.
Is Single ?	Indicates if a plot is a single contiguous plot.	Tick box.
Lianas Sample	Indicates if lianas were also recorded and stored electronically (i.e. excel files) or in paper format .	Tick Box if liana information is available.
Location of Lianas Data	Indicates the electronic and/or physical location of the lianas data.	Type information in the text box.
Local Climate Information available	Indicates if local climate information is available and stored electronically (i.e. excel files) or in paper format. Climate information is currently not included in the database.	Tick Box if climate information is available.
Location of Local Climate Info	Indicates the electronic and/or physical location of the local climate information	Type information in the text box.
Local Soil information available	Indicates if local soil information is available and stored electronically (i.e. excel files) or in paper.	Tick Box if Soil information is available
Location of Local Soil Information	Indicates the electronic and/or physical location of the local soil information.	Type information in the text box.
Plot Shape	Indicates shape of the plot.	Type information in

		the text box.
--	--	---------------

## 5.2.4 Soil Metadata

The **Soil Metadata** screen displays information about the soil in the plot.

**Soil Metadata**

<b>Reference soil group</b> Acrisols	<b>Prefix qualifiers</b> Andic
<b>Source of soil classification</b> Analysis lab Leeds	

## 5.2.5 Admin

The **Admin** screen displays information regarding who manages the plot data and the general level of access other users have to the plot data.

**Admin**

<b>Is Open Access</b> No	<b>Is Confirmed</b> No
<b>Is Meta Data Public</b> No	<b>Include in Global Taxonomy Management</b> No
<b>Plot Database Manager</b> TestGaby Add-Test (Institution 1)	<b>Leeds Contact</b> Oliver L. Phillips test (University of Leeds)
<b>Plot Comments</b> This a test plot	

The table below has a description of the items found in the Admin section.

Item	Description	How to Edit
<i>Is Open Access</i>	This item indicates if the tree census data will be available in the Public Plots sections.	By default the "Is Open Access" would like to make you contact <a href="mailto:admin@forestplots.net">admin@forestplots.net</a>
<i>Is Confirmed</i>	This item indicates that you confirm the plot metadata is correct and can be used for running queries.	To confirm your plot metadata leave empty.
<i>Is Metadata Public</i>	This item indicates if plot metadata can be displayed on the <a href="#">Plot Meta Data</a> (See 4.3.3) screen in the main menu.	If you want the metadata to be displayed on the plot metadata screen leave empty.  Note: To make the plot metadata public you also confirm the plot.
<i>Plot Database</i>	The plot data manager name and institution are displayed	For information on how to edit the plot data manager name and institution see the <a href="#">Plot Database Manager</a> screen.

<i>Manager</i>	in this section. The default Plot Manager will be the person who uploaded the plot initially.	Plot Database Management <a href="#">section</a> (See 5.4.3).  Note: if the name you entered is not in the list, please contact the manager.
<i>Include in Global Taxonomy Management</i>	This item indicates if the plot taxonomic information can be viewed and updated by botanists. For more information visit the <a href="#">Taxonomy Management</a> (See 6.) section.	Tick the box or leave empty.
<i>Plot Comments</i>	Displays any relevant information about the plot.	Information can be typed in the text area.

## 5.3 Vegetation

This section displays the individuals in the plot. The list displays Trees by default.

The screenshot shows the 'View Plot' interface for plot TEG-35. The 'Vegetation' tab is active. The plot name is 'test plot, test editing planar area'. Below the plot information, there is a filter input field and a 'FILTER' button. A dropdown menu is set to 'Trees' and a 'NO. OF ROWS' dropdown is set to 10. The table below lists the vegetation data:

Tree ID	Sub Plot	Tag Number	Family	Species
1067506	1	374B	Indet	Indet indet
1067507	2	605A	Indet	Indet indet
1067508	3	434.2	Violaceae	Leonia glycyarpa
1067509	4	436	Fabaceae	Hymenaea courbaril
1067510	5	442	Arecaceae	Euterpe precatoria
1067511	2	448	Lauraceae	Indet indet
1067512	3	450	Sapindaceae	Talisia cerasina
1067513	4	454	Myristicaceae	Iryanthera juruensis

To View the Liana List, select Lianas from the Drop down box.



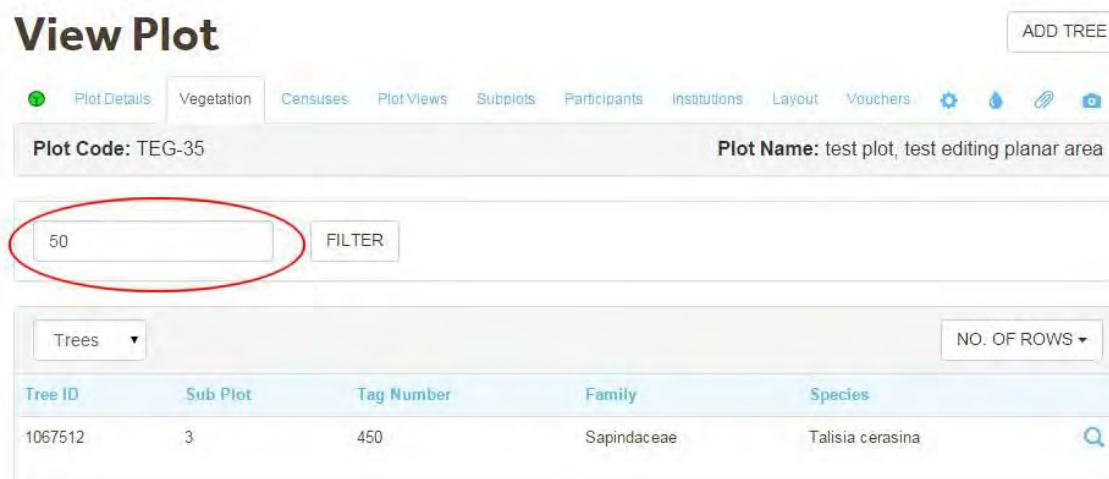
To view the detailed information about an individual click on the [View Tree](#)(See 5.3.2)/[View Liana](#)(See 5.3.6) icon.



### 5.3.1 Filter Tag Number

To search for a tree/liana by the tag number or TreeID, enter the information in the **filter box** and then click the filter button.

In the example below we are looking for trees which contain 50 in their Tag Number or TreeID. The filter, returned just one record.



Note that Forestplots.net only filters by current tag number. To remove the filter, and return to the full tree list, delete the term from the search box and click the filter button again.



Note: The same **filter functionality** is available in the [Lianas List](#)(See 5.3.6) section.


## 5.3.2 View Tree

The **Tree List** screen displays a list of trees including the following information:

- [Add Tree Button](#)(See 5.3.3) (Only available for users with Edit Rights).
- [Subplot T1](#) (See 5.14)
- [Tag Number](#)(See 5.3.4.2) (Current tag number in use)
- Species: Family and species name (Current determination)
- [TreeID/Tag Filter](#) (See 5.3.1) option

The screenshot shows the 'View Plot' interface for plot TEG-35. It features a navigation bar with tabs for Plot Details, Vegetation, Censuses, Plot Views, Subplots, Participants, Institutions, Layout, and Vouchers. Below the navigation bar, the plot code and name are displayed. A filter box is present, and a table of trees is shown with columns for Tree ID, Sub Plot, Tag Number, Family, and Species. Each row in the table has a magnifying glass icon for detailed view.

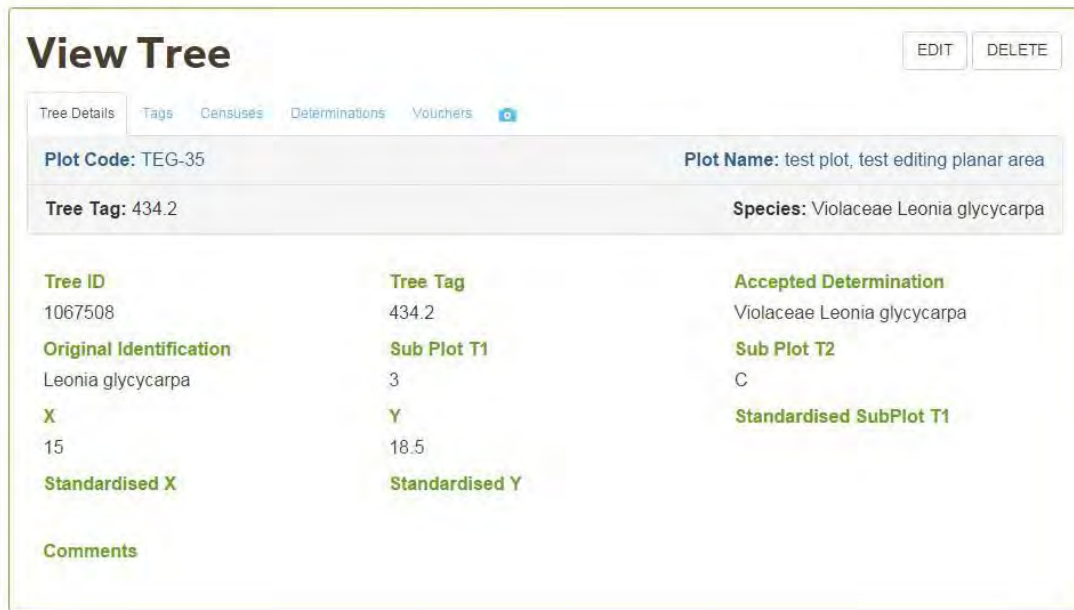
Tree ID	Sub Plot	Tag Number	Family	Species
1067506	1	374B	Indet	Indet indet
1067507	2	605A	Indet	Indet indet
1067508	3	434.2	Violaceae	Leonia glycyarpa
1067509	4	436	Fabaceae	Hymenaea courbaril
1067510	5	442	Arecaceae	Euterpe precatona
1067511	2	448	Lauraceae	Indet indet
1067512	3	450	Sapindaceae	Talisia cerasina

To view detailed information of a given tree, click the adjacent view  icon.

In the **View Tree** section you will have access to the following tabs:

- Tree Details e
- [Tags](#)(See 5.3.4.2)
- [Censuses](#)(See 5.3.4.3)
- [Determinations](#)(See 5.3.4.5)
- [Vouchers](#) (See 5.3.4.6)
- [Images](#) (See 5.3.4.7)

Below is an example of the **View Tree Section** and the tabs available.

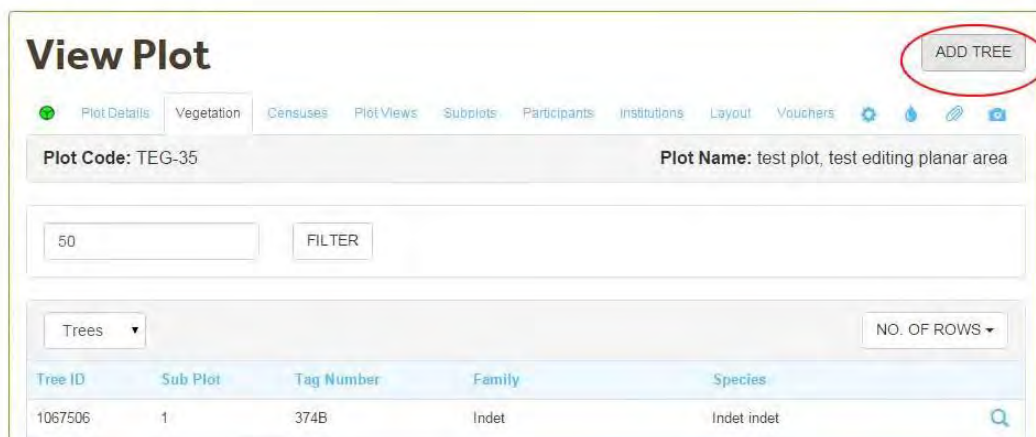


Clicking **Back** returns you to the **Tree List** screen.

### 5.3.3 Add Tree

If a tree was not uploaded, you can add it by clicking on the **Add Tree** Button.

Note: The lianas list section has and Add Liana button with the same functionality.




In the **Add Tree** screen you need to provide Tree level information.

The table below shows a list of the items displayed and a brief description on how to edit them.

Item	How to Edit?
------	--------------



<a href="#">Tag Number</a> (See 3.4.1)	Enter the information in the text box. This field is required
Year	Enter the information in the text box in yyyy format. This field is required.
<a href="#">Species (Taxonomic Information)</a> (See 3.4.5)	To use the <a href="#">Edit Species</a> (See 5.3.4.1) Functionality click on the  View Icon.
<a href="#">Subplot T1</a> (See 3.4.3)	Select Subplot T1 from drop down box.
<a href="#">Subplot T2</a> (See 3.4.3)	Enter the information in the text box.
<a href="#">X and Y</a> (See 3.4.3)	Enter the information in the text boxes.
<a href="#">Original Identification</a> (See 3.4.5)	Enter the information in the text box.
<a href="#">Standardized Subplot T1</a> (See 3.4.3)	Enter the information in the text box.
<a href="#">Standardized X/Y</a> (See 3.4.4)	Enter the information in the text box.
<a href="#">Comments</a> (See 3.4.6)	Enter the information in the text box.

After entering the Tree information and clicking **Save**, the tree will be assigned a TreeID and the rest of the Tabs will be displayed: [Tags](#)(See 5.3.4.2), [Census](#)(See 5.3.4.4), [Determinations](#).(See 5.3.4.5) Vouchers and Images. You now can [Add the Tree Census](#) (See 5.3.4.4)Information.

## Add Tree

**Plot Code:** TEG-35
 **Plot Name:** test plot, test editing planar area

<b>Tag Number</b> <input type="text" value="25T"/>	<b>Year</b> <input type="text" value="2015"/>	<b>Species</b> <input type="text" value="Iriartea deltoidea"/>
<b>Sub Plot T1</b> <input type="text" value="1"/>	<b>Sub Plot T2</b> <input type="text" value="2"/>	
<b>X</b> <input type="text" value="0.5"/>	<b>Y</b> <input type="text" value="0.5"/>	
<b>Original Identification</b> <input type="text" value="Palma irartea"/>	<b>Standardised SubPlot T1</b> <input type="text" value="1"/>	
<b>Standardised X</b> <input type="text" value="0.5"/>	<b>Standardised Y</b> <input type="text" value="0.5"/>	
<b>Comments</b> <input type="text" value="Test Tree"/>		

## View Tree

[Tree Details](#)
[Tags](#)
[Censuses](#)
[Determinations](#)
[Vouchers](#)

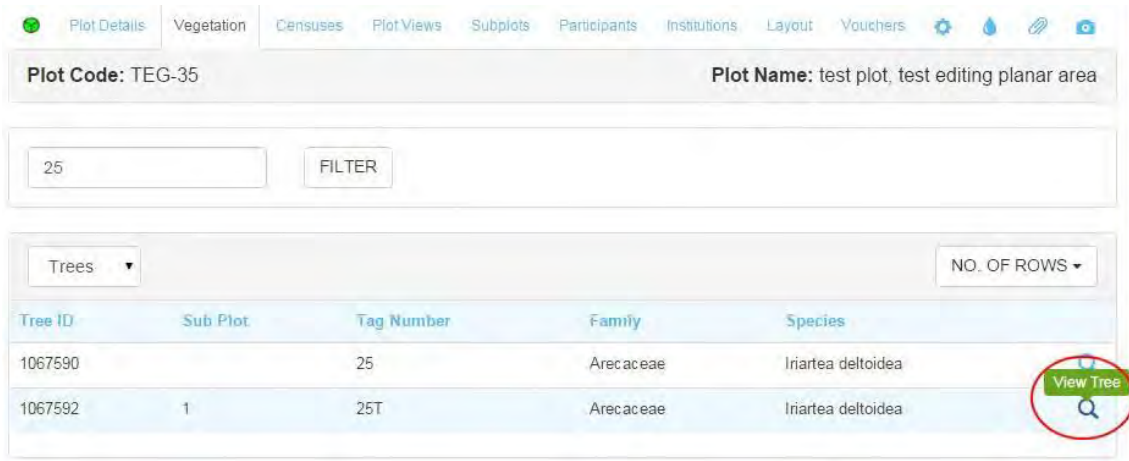
**Plot Code:** TEG-35
 **Plot Name:** test plot, test editing planar area

**Tree Tag:** 25T
 **Species:** Arecaceae Iriartea deltoidea

<b>Tree ID</b> 1067592	<b>Tree Tag</b> 25T	<b>Accepted Determination</b> Arecaceae Iriartea deltoidea
<b>Original Identification</b> Palma irartea	<b>Sub Plot T1</b> 1	<b>Sub Plot T2</b> 2
<b>X</b> 0.5	<b>Y</b> 0.5	<b>Standardised SubPlot T1</b> 1
<b>Standardised X</b> 0.5	<b>Standardised Y</b> 0.5	
<b>Comments</b> Test Tree		

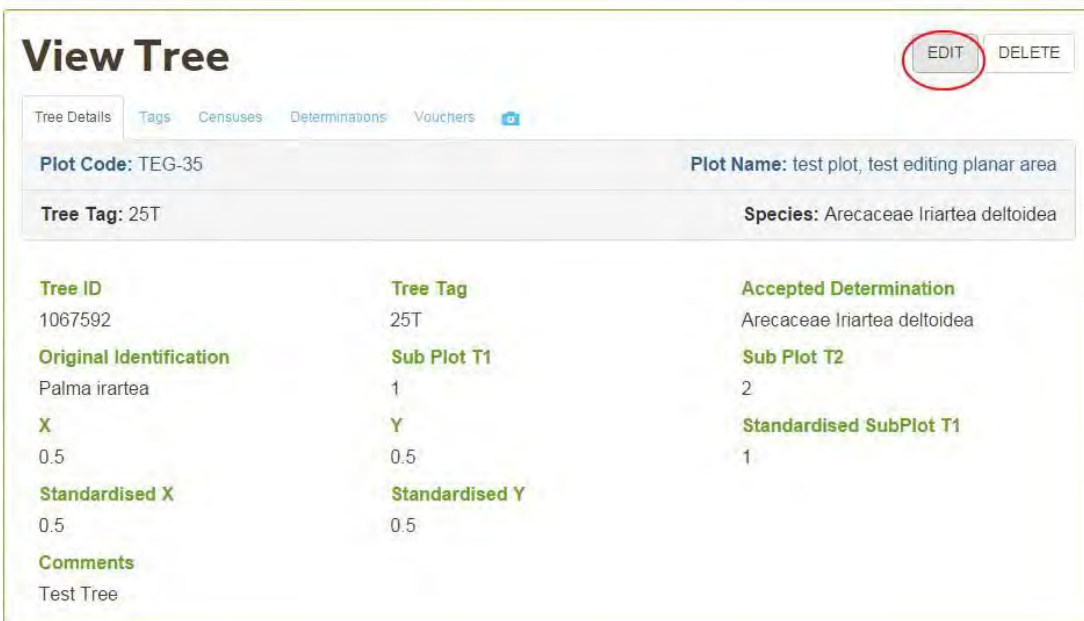
### 5.3.4 Edit tree

To Edit/Update tree information select a tree from the [Tree List](#) (See 5.3) section by clicking on the View Tree icon. The same functionality is available for Modifying Lianas.




The **Modify Tree** section will display 6 tabs: Tree, [Tags](#)(See 5.3.4.2), [Census](#)(See 5.3.4.3) , Determinations,Vouchers and Images. The vouchers and Images section are View Only.

On the **Tree** screen you can update the species determination, add/edit coordinates, edit subplot information and add comments by clicking on the Edit Button.



The table below shows a list of the items displayed on the **Tree** Tab and how to edit them. After editing an item click on the **Save** button.


Item	How to Edit?
<a href="#">TreeID</a> (See 3.4.2)	Can not be edited
<a href="#">Tag Number</a> (See 3.4.1)	Can be edited in the <a href="#">Tag tab</a> (See 5.3.4.2).

<a href="#">Species (Taxonomic Information)</a> (See 3.4.5)	To use the <a href="#">Edit Species</a> (See 5.3.4.1) Functionality click on the  View Icon.
<a href="#">Subplot T1</a> (See 3.4.3)	Select Subplot T1 from drop down box.
<a href="#">Subplot T2</a> (See 3.4.3)	Enter the information in the text box.
<a href="#">X and Y</a> (See 3.4.3)	Enter the information in the text boxes.
<a href="#">Original Identification</a> (See 3.4.5)	Enter the information in the text box.
<a href="#">Standardized Subplot T1</a> (See 3.4.3)	Enter the information in the text box.
<a href="#">Standardized X/Y</a> (See 3.4.4)	Enter the information in the text box.
<a href="#">Comments</a> (See 3.4.6)	Enter the information in the text box.

## Modify Tree

Plot Code: TEG-35
Plot Name: test plot, test editing planar area

**Tree ID**  
1067592

**Species**  
Arecaceae Iriartea deltoidea 

**Tree Tag**  
25T

**Sub Plot T1**  
1

**Sub Plot T2**  
2

**Y**  
0.5

**X**  
0.5

**Original Identification**  
Palma irarteia

**Standardised SubPlot T1**  
1

**Standardised Y**  
0.5

**Standardised X**  
0.5

**Comments**  
Test Tree

### 5.3.4.1 Edit Species

To edit species information, in the **Tree/Liana** Tab, click on the **edit icon** next to the Species name.

**Species**

Arecaceae Iriarteia deltoidea 

In the example below we're going to update the genus and species information. The new binomial is: *Euterpe precatoria* . As we're not updating the Family we start our search at genus level. We click on the edit icon next to the Genus information. We performed a search at genus level by typing the first few letters of the genus name in the search box. The genera with the characters typed will be displayed on a drop down list. At this stage we need to select the item we're looking for.

**Select Species**

Arecaceae Iriarteia deltoidea


**Family**



**Genus**



**Euterpe**



ACCEPT CLEAR CANCEL

Once the genus is selected, the species drop down list will only display the species in the genus selected. After selecting the species information click the Accept button.

**tree tag**

**Select Species**

Areaceae Iriartea deltoidea

**Family**

**Genus**

**Species**

Euterpe panamensis

Euterpe parviflora

Euterpe pertenuis

Euterpe petiolata

The new determination will be displayed in the Tree Screen. Click the Save button to save the new determination.

**Modify Tree**

Plot Code: TEG-35 Plot Name: test plot, test editing planar area

<b>Tree ID</b>	<b>Tree Tag</b>
1067592	25T
<b>Species</b>	<b>Sub Plot T1</b>
<input type="text" value="Euterpe precatória"/>	<input type="text" value="1"/>

The old determination will be displayed in the [Determinations](#) (See 5.3.4.5) tab.

**Note :** If you edit the Family information you will have to edit all of the taxonomic information for that individual.

If you edit only at the Genus level, you do not need to search through the Family information. And only genera associated to the Family displayed will appear in the drop down list.

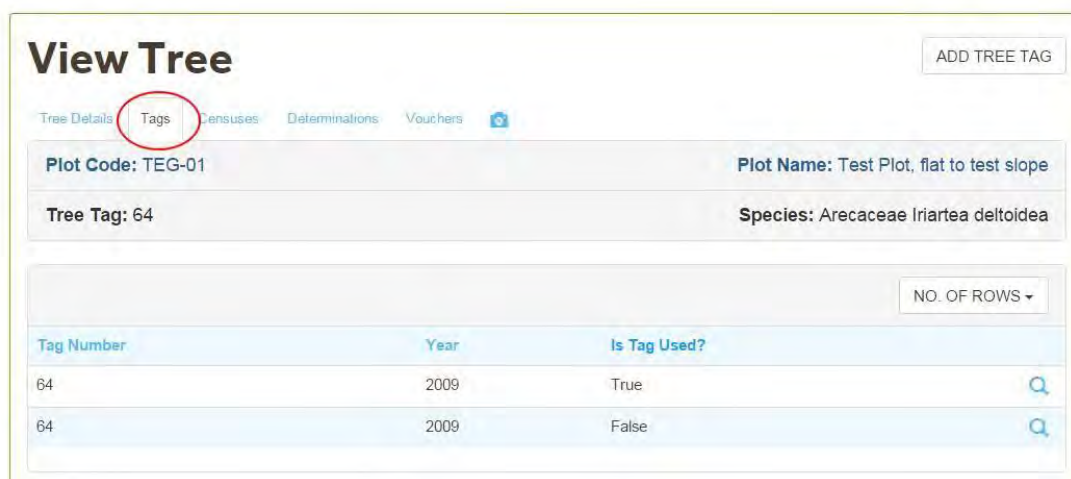
If you edit at the Species level, you do not need to change the Family and Genus information. Only species associated with the Family and Genus displayed will appear the drop down list.

### 5.3.4.2 Edit Tag


The **Tags** screen lists the tag numbers assigned to a given Tree. In this screen you can:

- [Edit a Tag number](#) (See 5.3.4.2)
- [Add a tree tag](#)(See 5.3.4.2)

In this screen you will see the **Plot Code** , Tag numbers, if the Tag is in use and the icons for viewing and editing.



The screenshot shows the 'View Tree' interface. At the top, there is a navigation bar with tabs: 'Tree Details', 'Tags' (highlighted with a red circle), 'Censuses', 'Determinations', and 'Vouchers'. A button 'ADD TREE TAG' is located in the top right corner. Below the navigation bar, there are two rows of information: 'Plot Code: TEG-01' and 'Plot Name: Test Plot, flat to test slope'; 'Tree Tag: 64' and 'Species: Arecaceae Iriarteia deltoidea'. Below this, there is a table with columns 'Tag Number', 'Year', and 'Is Tag Used?'. The table contains two rows: one with Tag Number 64, Year 2009, and Is Tag Used? True; and another with Tag Number 64, Year 2009, and Is Tag Used? False. A 'NO. OF ROWS' dropdown menu is located above the table. A magnifying glass icon is visible next to the 'Is Tag Used?' column header.

To **view** tag information click on the **View Tree Tag** icon . In the **View Tree Tag** screen you will see all the information available for that particular Tag. To edit tag information click on the Edit Button. Note: Edit and delete option are only available to users with Edit rights.



### View Tree Tag

EDIT DELETE

Plot Code: TEG-01 Plot Name: Test Plot, flat to test slope

Tree Tag: 64 Species: Arecaceae Iriarteia deltoidea

Tag Number	Year
64	2009

Is Tag Used?  
True

Comments

**Back** will take you to the Tree Tags screen.

In the Edit View you can edit:

- Tag Number: Type in the new number. Letters are accepted in this field.
- Year: Type in the new year. Only numbers are accepted in this field. The format is yyyy.
- Comments: If you have any comments about the tag type them in the comments text box.

Save any changes.

### Modify Tree Tag

SAVE Cancel

Plot Code: TEG-01 Plot Name: Test Plot, flat to test slope

Tree Tag: 64 Species: Arecaceae Iriarteia deltoidea

Tag Number	Year
<input type="text" value="64.1"/>	<input type="text" value="2009"/>

Is Tag Used?  
True

Comments

Note: Only edit the **Tag Number** when there was an error in the digitization of the information. If the Tree was re-tagged in the field, add the **New Tag** using the [Add Tree Tag](#) functionality.

**Back** will take you to the Tree Tags screen.

To **add a new tag** click on the add **Tree Tag** Button. The Add Tree Tag screen will display a header with the Plot Code, Plot Name, Tag Number and Taxonomic information of the tree you are using.

The screenshot shows the 'View Tree' interface. At the top right, there is a button labeled 'ADD TREE TAG' which is circled in red. Below the header, there are tabs for 'Tree Details', 'Tags', 'Censuses', 'Determinations', and 'Vouchers'. The main content area displays the following information:

- Plot Code: TEG-01
- Plot Name: Test Plot, flat to test slope
- Tree Tag: 64.1
- Species: Arecaceae Iriarteia deltoidea

Below this information is a table with a 'NO. OF ROWS' dropdown menu. The table has three columns: 'Tag Number', 'Year', and 'Is Tag Used?'. It contains two rows of data:

Tag Number	Year	Is Tag Used?
64	2009	False
64.1	2009	True

On the Add Tree Tag screen you can add:

- Tag Number: Type in the new number. Letters are accepted in this field.
- Year: Type in the new year. Only numbers are accepted in this field. The format is yyyy.
- Comments: If you have any comments about the tag type them in the comments text box.

After entering the relevant information click the **Save** button.

In the example below we want to add a new tag (10A) for the year 2014.

The screenshot shows the 'Add Tree Tag' form. At the top right, there are 'SAVE' and 'Cancel' buttons. The form displays the same header information as the 'View Tree' screen:

- Plot Code: TEG-01
- Plot Name: Test Plot, flat to test slope
- Tree Tag: 64.1
- Species: Arecaceae Iriarteia deltoidea

Below the header, there are input fields for 'Tag Number' (containing '10A') and 'Year' (containing '2014'). There is also a 'Comments' text area containing 'new tag'.

The New Tag information will be displayed in the **Tags** screen. The tag added becomes the Tag in use.

**View Tree** ADD TREE TAG

Tree Details **Tags** Censuses Determinations Vouchers

**Plot Code:** TEG-01 **Plot Name:** Test Plot, flat to test slope

**Tree Tag:** 10A **Species:** Arecaceae Iriartea deltoidea

NO. OF ROWS ▾


Tag Number	Year	Is Tag Used?
64	2009	False
64.1	2009	False
10A	2014	True

**Back** will take you to the Tree List screen.

### 5.3.4.3 Edit Tree Diameters

The **Census** Tab in the **Modify/View** Section displays:

- a header with the plot information on the tree you selected to view.
- a census list which includes: Census No, Census date, Tag Number, [DBH1](#), [DBH2 and DBH3](#) (See 3.4.7), [POM](#) (See 3.4.8), POM change status, Alive status.

To [view/edit the diameter measurements](#), tree status, measurement technique and post-field data management of a given census click the view icon .




**View Tree**

Tree Details **Tags** **Censuses** Determinations Vouchers

**Plot Code:** TEG-01 **Plot Name:** Test Plot, flat to test slope

**Tree Tag:** 10A **Species:** Arecaceae Iriartea deltoidea

NO. OF ROWS ▾

Census No	Census Date	Tag Number	DBH1	DBH2	DBH3	POM	POM Change	Alive	View Tree Census
1	2008.989	10A	100	100	100	0	False	True	
2	2008.552	10A	100	100	100	0	False	True	
3	2009.989	10A	200	200	200	0	True	True	

The **View Tree Census Screen** will display the **Plot and Census** Information in the Header.

Detailed tree census information including diameters, alive and death codes, measurement technique and post-field data management code will be displayed below the header.

## View Tree Census

<b>Plot Code:</b> TEG-01	<b>Plot Name:</b> Test Plot, flat to test slope
<b>Census No:</b> 2	<b>Census Date:</b> 2008.552
<b>Tree Tag:</b> 10A	<b>Species:</b> Areaceae Iriarteia deltoidea

<b>DBH0</b>	<b>DBH1</b>	<b>DBH2</b>	<b>DBH3</b>
100	100	100	100

**Tree Status**

<b>Alive</b> Normal	<b>Measurement Technique</b> normal measurement, tape measure
<b>Data Manipulation</b> normal measurement	<b>Height Measurement Technique</b>

<b>New Recruit</b> False	<b>Height</b>
<b>POM</b> 0	<b>POM Change</b> False
<b>Liana Crown Infestation</b>	<b>Crown Illumination</b>

**Comments**

The Codes are displayed as full descriptions or as field codes. Click on the **Show Field Codes** button to display the field codes.

<b>Plot Code:</b> TEG-01	<b>Plot Name:</b> Test Plot, flat to test slope
<b>Census No:</b> 2	<b>Census Date:</b> 2008.552
<b>Tree Tag:</b> 10A	<b>Species:</b> Arecaceae Iriarteia deltoidea

<b>DBH0</b>	<b>DBH1</b>	<b>DBH2</b>	<b>DBH3</b>
100	100	100	100

**Tree Status** Show Tree Status

<b>Alive Code</b> a	<b>Dead Code</b> 1
<b>Measurement Technique Code</b> 0	<b>Data Manipulation Code</b> 0
<b>Height Measurement Technique Code</b>	

<b>New Recruit</b> False	<b>Height</b>
<b>POM</b> 0	<b>POM Change</b> False
<b>Liana Crown Infestation</b>	<b>Crown Illumination</b>

**Comments**

For more information about the codes used and sampling methodologies visit the [RAINFOR Manual web pages](#) .

Back will return you to the **Tree Census List** screen.

To Edit information click on the Edit Button.

### View Tree Census

<b>Plot Code:</b> TEG-01	<b>Plot Name:</b> Test Plot, flat to test slope
<b>Census No:</b> 2	<b>Census Date:</b> 2008.552
<b>Tree Tag:</b> 10A	<b>Species:</b> Arecaceae Iriarteia deltoidea

<b>DBH0</b>	<b>DBH1</b>	<b>DBH2</b>	<b>DBH3</b>
100	100	100	100

**Modify Tree Census Screen** will display the Plot and Census Information in the Header. In this screen you can edit/update diameters and status information. Only apply corrections when, after careful revision, you and the plot PI's have agreed that there is an error in the data collected

and/or uploaded. Only enter new information when for some reason it was omitted during the census upload.

Remember to **Save** any changes. Back will take you to the previous screen. For more information about the codes used and sampling methodologies visit the [RAINFOR Manual web pages](#) .

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available on **My Plots** ).

Item	How to Edit?
<a href="#">DBH0</a> (See 7.2)	<a href="#">DBH0</a> (See 7.2) is the original Diameter (DBH1) uploaded and cannot be edited
<a href="#">DBH1</a> (See 7.2)	Type directly into the boxes (mm). If a correction is applied please also update



<a href="#">DBH2</a> (See 7.2)	Type directly into the boxes (mm). Apply the same correction as DBH1, unless t change.
<a href="#">DBH3</a> (See 7.2)	Type directly into the boxes (mm). Apply the same correction as DBH1.
<a href="#">Height</a> (See 3.4.10)	Type directly into the boxes (m).
New Recruit	Can not be updated. If the tree is a ghost recruit and you decide to apply back c run the <b>Refresh Plot View</b> button found in the <a href="#">Plot View List</a> (See 5.5) section.
<a href="#">POM</a> (See 3.4.8)	Type directly into the boxes (m).
<a href="#">POM Change</a> (See 7.2)	Leave this box empty if no change in POM was recorded. If a change in POM occurred in the census displayed tick the POM chang change is recorded, <a href="#">DBH1 and DBH2</a> (See 3.4.7) should be different. You the <a href="#">Automated POM Change</a> (See 5.16.1) if you record a new POM Chan
<a href="#">Tree Status</a> (See 3.4.9)	There are two options for editing Tree Status: a) <b>Full Description tick boxes</b> : Click on the tick boxe(s) which correspo <a href="#">codes</a> (See 3.4.9) . b) <b>Field Codes</b> : after clicking on the <b>Show Field Codes Button</b> , enter t <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Measurement Technique</a> (See 3.4.9)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , e <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Post-field data management Technique</a> (See 3.4.9)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , e <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Height Measurement Technique</a> (See 3.4.10)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , e <a href="#">RAINFOR height codes</a> (See 3.4.10) in the text box .
<a href="#">Liana Crown Infestation</a> (See 3.4.11)	To change from definitions to Field Codes click on the <b>Show Field Codes Butt</b> status information using the <a href="#">RAINFOR LI codes</a> (See 3.4.11).
<a href="#">Crown Illumination Index</a> (See 3.4.12)	To change from definitions to Field Codes click on the <b>Show Field Codes Butt</b> status information using the <a href="#">RAINFOR CI codes</a> . (See 3.4.12)
<a href="#">Comments</a> (See 3.4.13)	Type tree census comments. Please do not delete previous comments,

To **Delete** a census for that tree, click Delete button. Note that you can only delete censuses starting from the first or last census of that tree. In the example below we're going to delete the first census. After clicking on the



Delete button , the **Delete confirmation screen** will displayed.If you decide to proceed with the deletion click on the **Delete Button**.



After the census information is deleted the system will take you back to the **Census** tab. The census information deleted can be added back by clicking on the [Add Tree Census](#) (See 5.3.4.4) button and following the Add Tree Census instructions.

### 5.3.4.4 Add Tree Census

To add tree census information click on the **Add Tree Census Button**.



This will open the **Add Tree Census** form. Fill in the information required.

## Add Tree Census

Plot Code: TEG-31	Plot Name: TestPlot Plot
Tree Tag: 1.1	Species: Arecaceae Socratea exorrhiza

**Plot Census**

Census No. 4 (2005.071) ▼

DBH0	DBH1	DBH2	DBH3
<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

**Tree Status**

Alive  Dead  
 Normal

Measurement Technique	Data Manipulation
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
Height Measurement Technique	
<input style="width: 95%;" type="text"/>	

POM Change	Height
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
Liana Crown Infestation	Crown Illumination
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

Comments

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available on **My Plots** ).

Item	How to Edit?
Census Number (Census No)	Select the Census number from Drop down box list.
<a href="#">DBH0</a> (See 7.2)	Type directly into the boxes (mm). DBH0 is the original, uncorrected DBH1 as measured and entered in the field sheets.
<a href="#">DBH1</a> (See 7.2)	Type directly into the boxes (mm).

<a href="#">DBH2</a> (See 7.2)	Type directly into the boxes (mm).
<a href="#">DBH3</a> (See 7.2)	Type directly into the boxes (mm).
<a href="#">Height</a> (See 3.4.10)	Type directly into the boxes (m).
<a href="#">POM</a> (See 3.4.8)	Type directly into the boxes (m).
<a href="#">POM Change</a> (See 7.2)	Leave this box empty if no change in POM was recorded. If a change in POM occurred in the census displayed tick the POM change is recorded, <a href="#">DBH1 and DBH2</a> (See 3.4.7) should be different. You can also tick the <a href="#">Automated POM Change</a> (See 5.16.1) if you record a new POM Change.
<a href="#">Tree Status</a> (See 3.4.9)	There are two options for editing Tree Status: a) <b>Full Description tick boxes</b> : Click on the tick box(es) which correspond to the <a href="#">RAINFOR codes</a> (See 3.4.9) . b) <b>Field Codes</b> : after clicking on the <b>Show Field Codes Button</b> , enter the <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Measurement Technique</a> (See 3.4.9)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , enter the <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Post-field data management technique</a> (See 3.4.9)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , enter the <a href="#">codes</a> (See 3.4.9) in the text box .
<a href="#">Height Measurement Technique</a> (See 3.4.10)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , enter the <a href="#">RAINFOR height codes</a> (See 3.4.10) in the text box .
<a href="#">Liana Crown Infestation</a> (See 3.4.11)	To change from definitions to Field Codes click on the <b>Show Field Codes Button</b> and enter status information using the <a href="#">RAINFOR LI codes</a> (See 3.4.11).
<a href="#">Crown Illumination Index</a> (See 3.4.12)	To change from definitions to Field Codes click on the <b>Show Field Codes Button</b> and enter status information using the <a href="#">RAINFOR CI codes</a> . (See 3.4.12)
<a href="#">Comments</a> (See 3.4.13)	Type tree census comments. Please do not delete previous comments, only add new ones.

The example below displays an **Add tree Census Form** with all the items completed.

After saving and clicking **Back**, the census information added will be displayed in the **Census** tab. If you want to correct any mistakes in the diameter and status information follow the instructions in the [Edit Tree Diameters](#)(See 5.3.4.3) section.

### 5.3.4.5 Determinations

The **Determinations** tab displays all the determinations associated with a given tree and if the determination is associated with a voucher. From this screen you can:

- [Add a new Determination](#)
- [View a determination](#)
- [Edit determination information](#)
- [Delete Determination](#) (See 5.3.4.5)

**Modify Tree**  
Plot Code: VOU-89 Plot Name: VOU-89

Tree | Tags | Census | **Determinations** | Vouchers | Images

Add Determination

Determination Date	Determination By	Voucher Code	Family	Full Species Name
	Tres Voucher	TVV134	Areaceae	Attalea butyracea

Save Back

To add a new determination click on the **Add determination** button. Fill in the Required information.

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available on **My Plots** ).

Item	How to Edit?
<a href="#">Species (Taxonomic Information)</a> (See 3.4.5)	To use the <a href="#">Edit Species</a> (See 5.3.4.1) Functionality click on
Determination by	Select the Participant using the <a href="#">Add Participant</a> (See 5.4.3.
Determination Date	Enter the determination date in dd/mm/yyyy format.
Comments	Enter any information related to the determination.

The screen below displays the completed **Add Determination** Form. This same screen is displayed, but without the edit functionality, when Viewing a Determination.

### Add Determination

**Plot Code:** VOU-89 **Plot Name:** VOU-89  
**Tag Number:** 12  
**Family:** Arecaceae **Species:** Attalea butyracea

**Species:**  
 Arecaceae  
 Iriarteia deltoidea

**Determination By:** Wilson Quizhpe  
**Determination Date:** 01/01/2009

**Comments:**  
 New Determination

Clicking on the **Back** button will take you to the **Determinations** List. The new determination will be displayed.

Note: The determination is added to the determinations List, but it is **not** assigned as the Current determination for that tree. To **Update** the current determination of a Tree you need to **update** the [Species](#) (See 5.3.4.1) Information in the Tree Tab.

### Modify Tree


**Plot Code:** VOU-89 **Plot Name:** VOU-89

Tree | Tags | Census | **Determinations** | Vouchers | Images

Add Determination

Determination Date	Determination By	Voucher Code	Family	Full Species Name	
	Tres Voucher	TW134	Arecaceae	Attalea butyracea	
01/01/2009	Wilson Quizhpe		Arecaceae	Iriarteia deltoidea	

In the **Modify Determination** Section, you can only edit: Determination By, the Determination Date and comments.

To delete a determination click on the **Delete** icon  next. The Delete Determination screen will be displayed. If you want to proceed with the deletion click on the Delete button.

Note: the current determination cannot be deleted. Only delete determinations if you are certain that there was an error in the determination uploaded (i.e. a problem when digitizing the field sheets and assigning the wrong determination to a given tree.)

**Delete Determination**

**Plot Code:** VOU-89 **Plot Name:** VOU-89  
**Tag Number:** 12  
**Family:** Arecaceae **Species:** Attalea butyracea

**Species:**  
 Arecaceae  
 Iriarteia deltoidea

**Determination By:** Wilson Quizhpe      **Determination Date:** 01 January 2009

**Comments:**  
 New Determination


**Altered By:** System Administrator      **Altered Date:** 19 July 2014  
 Website User

### 5.3.4.6 View Vouchers


Voucher information associated with individual trees is displayed in the **Vouchers** tab. Voucher and species information can be searched for using the [Advanced Search functionality](#) (See 4.5) .

The Vouchers tab only displays:

- Voucher code
- Collector's Name
- Herbarium where the specimen was deposited.
- Year of Collection
- View and Delete functionality.

To view detailed information voucher click on the **View Voucher**  icon.



To delete the voucher click on the **Delete Voucher** icon . If the current [determination](#) (See 5.3.4.5) is associated to a voucher you can not delete the voucher.



The **View Voucher** screen will displayed detailed information of a given voucher. To look at the different determinations associated with a Voucher click on the Determinations Tab. The determinations tab will show the same information as the [Tree level determinations](#) (See 5.3.4.5)Tab.

View Voucher	
Family: Meliaceae Species: Walsura indet	
Voucher	Determinations
<b>Voucher Code:</b> GP111	<b>Herbarium:</b> HOXA de la Selva Central en Oxapampa-Pasco-Bgrr (HOXA)
<b>Collector:</b> Georgia Pickavance University of Leeds	
<b>Year:</b> 2014	<b>Month:</b>
<b>Day:</b>	
<b>Country:</b>	<b>Cluster:</b>
<b>Species:</b> Meliaceae Walsura indet	<b>Tree:</b> 1
<b>Is Fertile:</b> Undefined	<b>Has Flowers:</b> Undefined
<b>Has Fruit:</b> Undefined	<b>Height (M):</b>

[Back](#)

Note: Voucher information can only be uploaded and edited using the [Upload Voucher](#)(See 5.7.5) and [Update Determination](#)(See 5.7.7) functionality

### 5.3.4.7 View Photographs

Images associated with a given trees or the current determination of a given tree will be displayed in the **Images** tab. Photographs of a given species can be searched for using the [Advanced Search](#)(See 4.5) Functionality.

In the example below, the image displayed below the **Tree Images** header corresponds to the photographs taken to the voucher sample taken from the tree.

The images displayed below the **Species Images** header correspond to photographs of other trees/vouchers that have the same species determination.

Note: Photographs and associated information can only be uploaded using the [Upload Photos](#) (See 5.7.6) functionality. Currently there is no option to edit photograph metadata.

**Modify Tree**

Plot Code: TAM-01 Plot Name: Tambopata plot zero

Tree

Tags

Census


Determinations

Vouchers

Images


**Tree Images**

Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher




**Species Images**


Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher



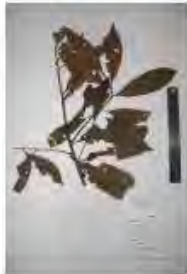
Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher




Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher



Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher




Species: Myristicaceae Iryanthera juruensis  
Photo Context: voucher



## 5.3.5 DeleteTree

To delete a tree you first need to delete ALL the census information associated with that tree.

The procedure to delete tree census information is described in the [Edit Tree Diameters](#) (See 5.3.4.3) section.

After you delete all the censuses, go to the [List](#) (See 5.3.2) section and click on the **Delete** icon . The Delete Screen will be displayed. If you want to proceed with the tree deletion click on the **Delete** button.

Note: You can only delete trees that do not have vouchers associated to them and/or other trees.

**Delete Tree**

Plot Code: TEG-01 Plot Name: Test Plot 01

**Tree**

Tags

Census

Determinations

Vouchers

Images

Tree ID:  
274423

Species:  
Fabaceae  
Acacia daemon

X:

Sub Plot T1:  
1

Original Identification:

Standardised X:

Standardised SubPlot T1:

Comments:

Tag Number:  
1

Y:

Sub Plot T2:  
1

Is Liana:  
No

Standardised Y:

## 5.3.6 View Liana

The **Liana List** screen displays a list of lianas including the following information:

- [Add Liana Button](#) (See 5.3.3) (Only available for users with Edit Rights).
- [Subplot T1](#) (See 5.14)
- [Tag Number](#) (See 5.3.4.2) (Current tag number in use)




















































- Species: Family and species name (Current determination)
- [TreeID/Tag Filter](#) (See 5.3.1) option
- View/[Edit](#)(See 5.3.4)/ [Delete](#)(See 5.3.5) functionality (Edit and Delete Functionality only available for users with Edit Rights)

The functionality for managing and editing Liana information is identical to the Tree functionality .



Plot Code: TAM-28 Plot Name: Tambopata plot one. Test

Filter Tag Number:  

Add Liana

Sub Plot T1	Tag Number	Family	Species	
	1266.1	Malpighiaceae	Heteropterys salicifolia	  
	1572	Combretaceae	Combretum laxum	  
	168	Bignoniaceae	Xylophragma pratense	  
	169	Celastraceae	Salacia juruana	  
	20	Bignoniaceae	Ceratophytum tetragonolobum	  
	23	Fabaceae	Machaerium indet	  
	600	Fabaceae	Indet indet	  
	82	Bignoniaceae	Adenocalymma impressum	  
1	100b	Bignoniaceae	Adenocalymma ackermannii	  
1	100c	Bignoniaceae	Adenocalymma ackermannii	  
1	1020	Indet	Indet indet	  
1	200b	Fabaceae	Abacosa americana	  
11	291	Bignoniaceae	Xylophragma pratense	  
11	292	Combretaceae	Combretum laxum	  
11	319	Euphorbiaceae	Omphalea diandra	  
12	321	Euphorbiaceae	Omphalea diandra	  
18	472	Bignoniaceae	Indet indet	  

[Back](#)

To view detailed information of a given liana click the adjacent view  icon. To [Edit Liana](#) (See 5.3.6.1) information click on the Edit  Icon.

In the **View Liana** section you will have access to the following tabs:

- Liana (The information displayed is identical to that displayed in the [Tree](#)(See 5.3.4) section).
- [Tags](#)(See 5.3.4.2)
- [Census](#) (See 5.3.4.3)

- [Determinations](#)(See 5.3.4.5)
- [Vouchers](#)(See 5.3.4.6)
- [Images](#)(See 5.3.4.7)

## 5.3.6.1 Edit Liana

The **Census** Tab in the **Modify/View** Section displays:

- a header with the plot information on the liana you selected to view.
- a census list which includes: Census No, Census date, Tag Number, D.Largo,D.Altura, Dmax, POM D.max, , Alive status and task icons for [viewing](#) , editing and deleting diameter measurements in a given census.
-

### Modify Liana Census

Plot Code: TAM-28 Plot Name: Tamhopala plot one, Test  
Tag Number: 1266 1  
Family: Malpighiaceae Species: Heteropterys salicifolia  
Census No: 1 Census Mean Date: 1987.000

**Liana** Host Trees

D.Largo:  D.Altura:

D.Max:  POM D.Max:

Liana Status:  
Alive:  Normal:

DLargo Measurement Technique:

DLargo Data Manipulation:

DAltura Measurement Technique:

DAltura Data Manipulation:

DMax Measurement Technique:

DMax Data Manipulation:

Host Status:


Show Field Codes

Most Affected Tree:

New Recruit:  
No

Comments:

Save Edit

To [view the diameter measurements](#) , tree status, measurement technique and post-field data management of a given census click the view icon  .

To Edit Information Click on the Edit icon  .



The **View Liana Census Screen** will display the **Plot and Census** Information in the Header.

Detailed liana census information including diameters, alive and death codes, measurement technique and post-field data management code will be displayed below the header.

**View Liana Census**

Plot Code: TAM-28 Plot Name: Tambopata plot one, Test  
 Tag Number: 1256 1  
 Family: Malpighiaceae Species: Heteropterys salicifolia  
 Census No: 1 Census Mean Date: 1987-000

Liana

Host Trees

<b>D.Largo:</b> 0	<b>D.Altura:</b> 0
<b>D.Max:</b> 120	<b>POM D.Max:</b> 0

**Liana Status:**  
 Alive Code  
 Normal

**DLargo Measurement Technique:**  
 normal, tape

**DLargo Data Manipulation:**  
 Normal measurement, no retrospective modification

**DAltura Measurement Technique:**  
 normal, tape

**DAltura Data Manipulation:**  
 Normal measurement, no retrospective modification

**DMax Measurement Technique:**  
 estimate

**DMax Data Manipulation:**

**Host Status:**  
 Estimated using median growth rates

[Show Field Codes](#)

**Most Affected Tree:**  
 10 (53956)

**New Recruit:**  
 No

**Comments:**  
 d1.3measured,dmax estimated

Back

The Codes are displayed as full descriptions or as field codes. Click on the Show **Field Codes** button to display the field codes.

**View Liana Census**

Plot Code: TAM-28 Plot Name: Tambopata plot one, Test  
 Tag Number: 1266.1  
 Family: Malpighiaceae Species: Heteropterys salicifolia  
 Census No: 1 Census Mean Date: 1987.000

Liana
Host Trees

D.Largo:	D.Altura:
0	0
D.Max:	PQM D.Max:
120	0

Alive Code: 8  
 Dead Code: 1  
 DLargo Measurement Technique Code: 0  
 DLargo Data Manipulation Code: 0  
 DAltura Measurement Technique Code: 0  
 DAltura Data Manipulation Code: 0  
 DMax Measurement Technique Code: 3  
 DMax Data Manipulation Code: 4

Most Affected Tree:  
 10 (53956)

New Recruit:  
 No

Comments:  
 d1.3measured,omax estimated

For more information about the codes used and sampling methodologies visit the RAINFOR [Manual web pages](#) .

Back will return you to the **Tree Census List** screen.

The **Modify Tree Census Screen** will display the Plot and Census Information in the Header. In this screen you can edit/update diameters and status information. Only apply corrections when, after careful revision, you and the plot PI's have agreed that there is an error in the data collected and/or uploaded. Only enter new information when for some reason it was omitted during the census upload.

Remember to **Save** any changes. Back will take you to the previous screen. For more information about the codes used and sampling methodologies visit the RAINFOR [Manual web pages](#).

### Modify Liana Census

Plot Code: TAM-28 Plot Name: Tamhopata plot one, Test  
 Tag Number: 1266.1  
 Family: Malpighiaceae Species: Heteropterys salicifolia  
 Census No: 1 Census Mean Date: 1987.000

**Liana** Host Trees

D.Largo:  D.Altura:

D.Max:  POM D.Max:

Liana Status:  
 Alive  Normal

DLargo Measurement Technique:

DLargo Data Manipulation:

DAltura Measurement Technique:

DAltura Data Manipulation:

DMax Measurement Technique:

DMax Data Manipulation:

Host Status:

Show Field Codes

Most Affected Tree:


New Recruit:  
 No


Comments:

Save Back

The table below shows a list of the items displayed and a brief description on how to edit them (Option only available on **My Plots** ).

Item	How to Edit?
<a href="#">D.largo</a> (See 3.4.15)	Type directly into the boxes (mm).
<a href="#">D.Altura</a> (See 3.4.15)	Type directly into the boxes (mm).
<a href="#">D.Max</a> (See 3.4.15)	Type directly into the boxes (mm).
<a href="#">POM</a> (See 3.4.15) Dmax	Type directly into the boxes (mm).
<a href="#">Liana Status</a> (See 3.4.16)	There are two options for editing Liana Status: a) <b>Full Description tick boxes</b> : Click on the tick boxe(s) which correspond to t (See 3.4.16). b) <b>Field Codes</b> : after clicking on the <b>Show Field Codes Button</b> , enter the <a href="#">RA</a> 3.4.16) in the text box .
<a href="#">Measurement Technique</a> (See 3.4.16)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , <a href="#">codes</a> (See 3.4.16) in the text box . A Measurement technique has to be select individual Diameter type.
<a href="#">Post-field data management Technique</a> (See 3.4.16)	Select from drop down list or after clicking on the <b>Show Field Codes Button</b> , <a href="#">codes</a> (See 3.4.16) (See 3.4.9) in the text box . A post-field data management technique has t each individual Diameter type.
New Recruit	Can not be updated.
<a href="#">Comments</a> (See 3.4.13)	Type tree census comments. Please do not delete previous comments, only a

You can also view and add host trees in the Host Trees Tab. If you want to add a host tree, select the tree tag from the drop down Box and then click on the Add Button. The Host trees will be displayed as a list which includes Treeld and Tag Number. To remove a Tree from the Host list click on the Delete icon .

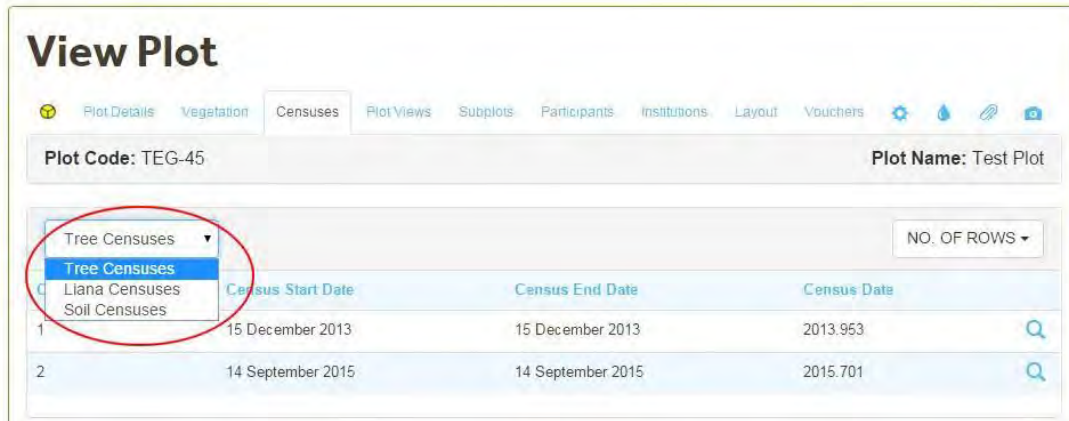
To **Delete** a census a given liana, select the Delete icon  next to the appropriate census. Note that you can only delete in descending or ascending order starting from the first or last census. To delete census information and remove a liana from the liana list follow the same procedures described for [deleting tree censuses](#) (See 5.3.4.3) and [deleting trees](#). (See 5.3.5)

## 5.4 Managing Census Data

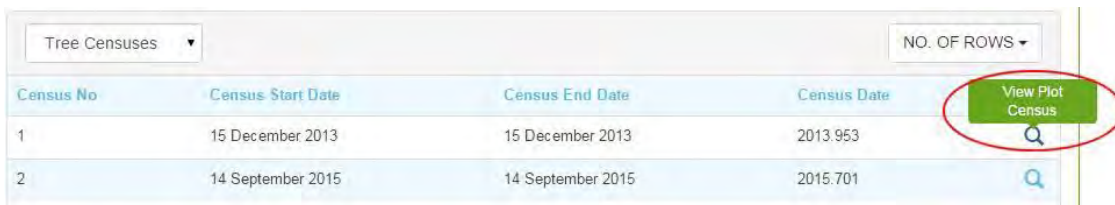
To view and edit census information click on the **Censuses** tab

Census No.	Census Start Date	Census End Date	Census Date
1	15 December 2013	15 December 2013	2013.953
2	14 September 2015	14 September 2015	2015.701

The **Censuses** screen displays the **Plot Code** and **Plot Name** at the top. The censuses displayed will correspond to "Tree Censuses", to select a different type of census select the option from the drop down box.



To view/edit information of a given census, click on the "View Plot Census" icon.



The tabs displayed on the [View Plot Census](#) (See 5.5) screen will depend on the level of access you have for that particular plot.

### 5.4.1 View Plot census

The **View Plot Census** screen displays the census number, census date, the accessibility status of the census, and any comments from the regarding this census.



### 5.4.2 Edit Plot Census

To edit the census of a plot click on the edit button.



In the **Modify Plot Census** screen you can:

- Update the census date: type the start date and end date in the appropriate boxes (dd/mm/yyyy).
- Confirm the census so it can be used in queries and viewed by other users: select the **Is Confirmed** box.
- Edit comments from the comments box (Please **do not delete** comments added by others with Edit rights for that Plot).

Click **Save** after any updates.

## 5.4.3 Participants list

To **View/Edit Participant** information you have to go to the **Participants Tab**.



The participants list for the census will be displayed. If there are no participants associated with the tree/liana/soil field campaign this screen will be empty.

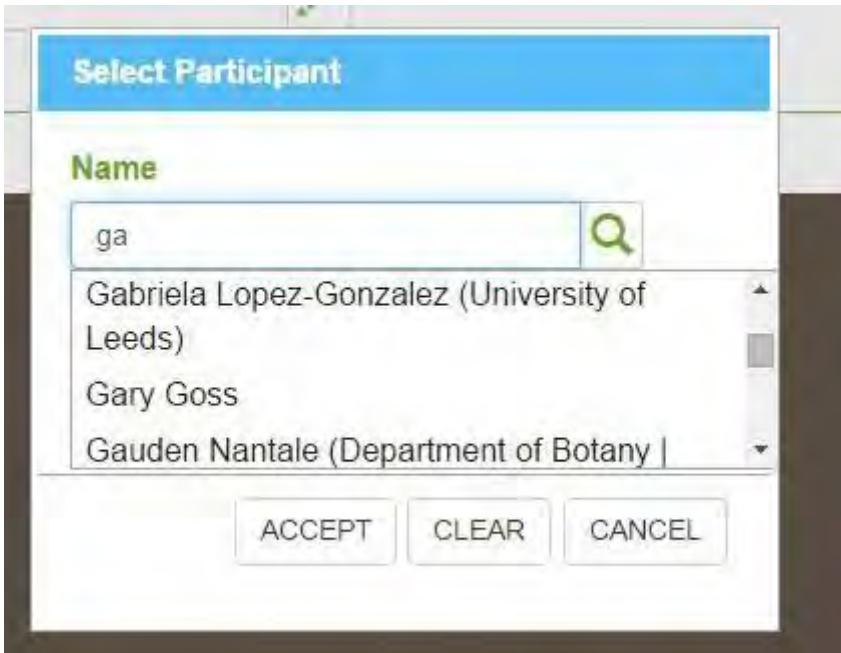
### 5.4.3.1 Add participant

To add a Participant to a census click on the **Add Participant** button.

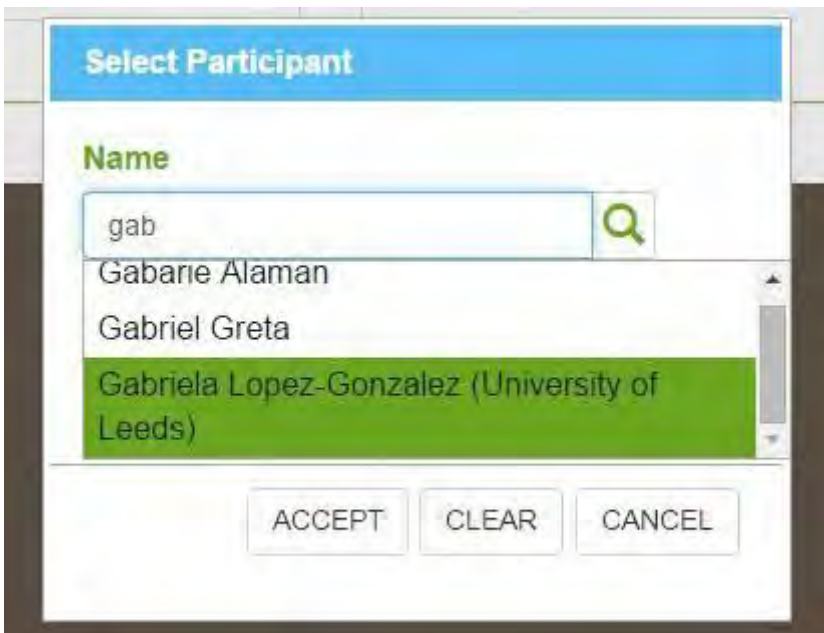
You can search for the participant's name by clicking on the "Add Participant" icon.

The "Select Participant" screen will be displayed. You can search the name of the participant by typing in the text box at least 2 characters.

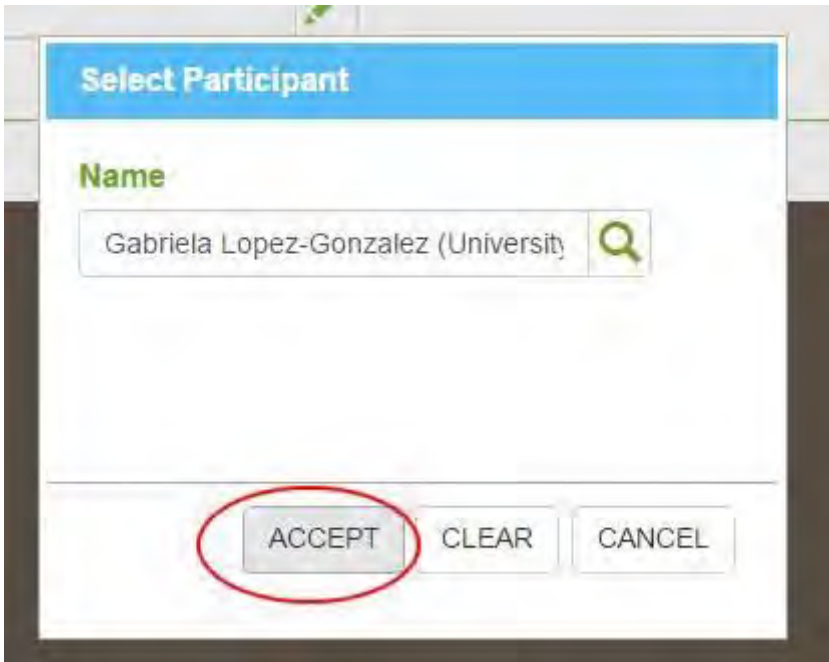
In the example below we typed "ga". All the names containing these characters are displayed in a drop down box.



Use the cursor to select the participant name. Once you found the name you are looking for left click.



The name will be displayed in the screen. Then click the Accept Button.



Then Click the Save Button



The name will be added to the **Participants** section. Now you can add the participant's category and the project. Each Participant can have multiple roles in a field campaign.



The categories and projects can be selected from the drop down box. Click Save after selecting the category and Project.

**Add Participant** SAVE Cancel

Plot Code: TEG-45 Plot Name: Test Plot

Plot Census - Census No: 1 Census Date: 2013.953

Participant: Gabriela Lopez-Gonzalez

Personnel Category: Field Leader

Project: RAINFOR

Project List:  
 CIFOR  
 ECOFOR  
 ERC  
 GEOCARBON-Africa  
 Leverhulme Program (Valuing the Arc)  
 Moore Africa (Afrित्रon)  
 NERC Consortium (Amazonica)  
 NERC Consortium (Trobis)  
 NERC New Investigators (Afrित्रon)  
 Pan-Amazonia  
 RAINFOR

The information selected will be displayed in the View Participant Screen. A new Role can be added by clicking on the Add Participant Role Button. To go back to the Census Participants list, click on the Plot Census- Census No. link.

**View Participant** ADD PARTICIPANT ROLE DELETE

Plot Code: TEG-45 Plot Name: Test Plot

Plot Census - Census No: 1 Census Date: 2013.953

Participant  
 Gabriela Lopez-Gonzalez

NO. OF ROWS ▾

Personnel Category	Project
Field Leader	RAINFOR

**Note :** If you would like a new project or participant to be added to the database please contact the [Database Manager](#).

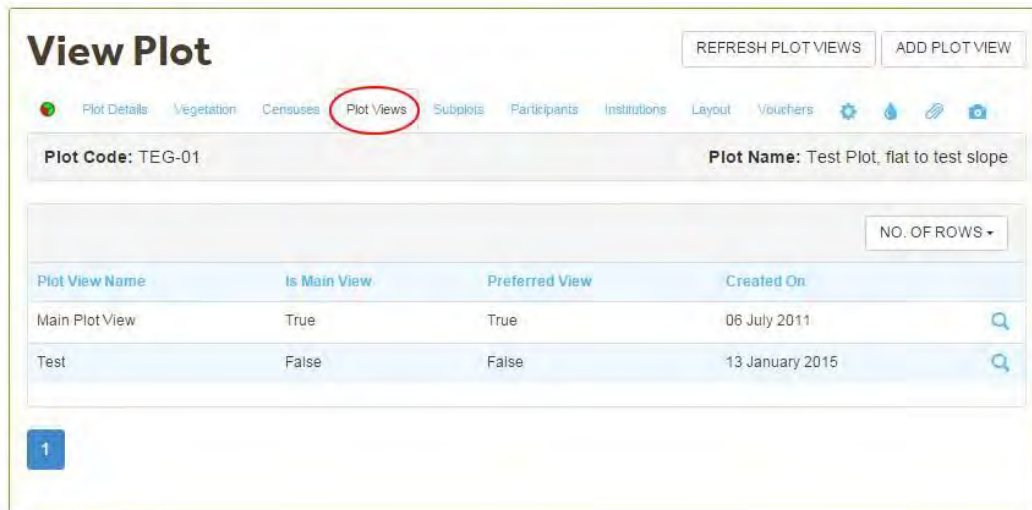
## 5.5 Plot View List

Click the **Plot Views** tab to view/edit Plot View information

The **Plot View List** screen displays:

- the different views created for that plot to manage changes in protocol,
- if the Plot view is the Preferred Plot View,

The **Main Plot View** is the default plot view, which contains all trees and censuses as originally uploaded to the database. You can not edit the main plot view. The **Preferred Views** are the views selected by the Pi's and database manager as the ones to use for analyses.



**View Plot** REFRESH PLOT VIEWS ADD PLOT VIEW

Plot Details Vegetation Censuses **Plot Views** Subplots Participants Institutions Layout Vouchers

Plot Code: TEG-01 Plot Name: Test Plot, flat to test slope

NO. OF ROWS -

Plot View Name	Is Main View	Preferred View	Created On
Main PlotView	True	True	06 July 2011
Test	False	False	13 January 2015

1

## View Plot View Details

To view the details of a given Plot View click on the View  icon.

Main Plot View	False	  
ALP-01 Sandy clay, very well drained (was ALP-12)	True	  
ALP-01 excluding anthropogenic	False	   View Plot View

The Plot View screen will display details on:

- who created the Plot view
- when it was created
- details of the criteria for [creating the plot view](#) (See 5.6).

Details of Subplots and Taxonomic information will be displayed in different tabs. In the example below the Plot view includes a tab with a detailed list of the Subplots excluded.

**View Plot View**


Plot Code: ALP-02 Plot Name: Allpahuayo B

**Plot View**

Included Sub Plots

<p><b>Created By:</b> Roel Brienen University of Leeds</p>	<p><b>Created On:</b> 29/07/2011 12:23:25</p>
<p><b>Plot View Name:</b> ALP-02 excluding anthropogenic plots</p>	<p><b>Plot View Area (ha):</b> 0.92</p>
<p><b>Description:</b> ALP B without anthropogenic disturbed subplots (1 and 4)</p>	
<p><b>Restricted by Census:</b> Yes</p>	
<p><b>First Census No:</b> 1</p>	<p><b>First Census Date:</b> 1990.871</p>
<p><b>Restricted by DBH:</b> Yes</p>	<p><b>Min. DBH:</b> 100</p>
<p><b>Restricted by Sub Plot:</b> Yes</p>	<p><b>Restricted by Taxonomy:</b> No</p>
<p><b>Preferred View:</b> No</p>	

Back

To edit click on the **Edit**  icon. This will start the Edit Plot Wizard. For more information go to the [generate a plot view section ?](#)(See 5.6)

**Generate Plot View**

Plot Code: TEG-21 Plot Name: Test Plot 2

Welcome to the plot view editor wizard

Start



## 5.6 Generate Plot View

Generating a **plot view** allows you to define which tree census information you require for a given analysis.

You can generate multiple plot views of each plot. Plot dumps will include all the data as uploaded to the database (Main Plot View). The download options from the Advanced search include Main Plot Views and Preferred Plot view.

You can define a plot view using the following criteria:

- Census dates,
- minimum diameter,
- Taxonomy: specify trees to include or exclude by Genus and/or Family level, and
- Subplot T1.

### Generate Plot View Wizard

To Start the **Generate Plot View Wizard** click on the **Generate View Wizard** box. In the **Plot View Details** screen enter the criteria you want to use for creating the Plot view.

**Plot View Details** Next

Plot Code: TEG-06 Plot Name: Test Joey

Plot View Name:  Plot View Area (ha):

Plot View Description:

First Census:  Last Census:

Min. DBH:


Next


The table below shows a list of the items displayed on the **Plot View Details screen** and how to edit them. Click Next after editing/selecting all the relevant items.



Item	Description
Plot View Name	Write down the a name that describes the Plot view. Required
Plot View Area (ha)	Area of the plot view if different to the Main Plot view area. Optional.
Plot View Description	Write down a description of the Plot view. If possible write down the reasons for cre
First Census	Select the first census date for the Plot view. Optional.
Last Census	Select the last census date for the Plot view. Optional.
Minimum DBH	Write down the minimum diameter for the Plot view. Optional.

The wizard will give you the option to exclude Families from the Plot View. To include all families, click the **Next** button.

To exclude a family from the new plot view, click the Add  button. The selected family will then appear in the Excluded Families section of the screen. In the example below the family Anacardiaceae will not be included in the Plot view.

To remove a family from the Excluded Families list (to include it in the plot view), click on the corresponding red delete icon .

Once you have selected all the Families you want to exclude click **Next**.

**Taxonomy Exclusion: Family** Next

Plot Code: TEG-06 Plot Name: Test.Joey

**Excluded Families:**

Family	
Anacardiaceae	✖

**Included Families:**

Family	
Annonaceae	+
Apocynaceae	+
Bignoniaceae	+
Boraginaceae	+
Celastraceae	+

The wizard will now give you the option to Exclude Genera. The functionality is identical to the Exclude Family section. Click **Next** to move to the next screen.

In the Sub Plot Inclusion step, you can select which subplots (Subplot T1) to **include** . Select subplots by clicking on the Add button. The example below shows the subplots selected in the upper section. Click **Next** after you have selected all the plots you want to include in the plot view.

**Sub Plot Inclusion** Next

Plot Code: TEG-85 Plot Name: TestingMay2012GP- GL

Selected Sub Plots:

Sub Plot T1	Location	Area	
AB1			✖
AB2			✖
AB3			✖
AB4			✖
BC1			✖
DE1			✖

Available Sub Plots:

Sub Plot T1	Location	Area	
BC2			⊕
BC3			⊕
BC4			⊕
CD1			⊕
CD2			⊕
CD3			⊕
CD4			⊕
DE1			⊕
DE2			⊕
DE3			⊕
DE4			⊕

Back Next

After the subplot selection, the **Plot View Created** screen will appear. Click **Finish** .

The New Plot View will then appear in your [plot view list](#) (See 5.5) from the main task list menu and be available to select for use in queries.

## 5.7 Data Import

There are different types of information and files that can be uploaded into ForestPlots.net.

To Upload a New Plot, go to the [Data Import section](#)(See 4.4).

To upload data to an existing plot, open the **Data Import** menu screen. The plot upload options are displayed below.

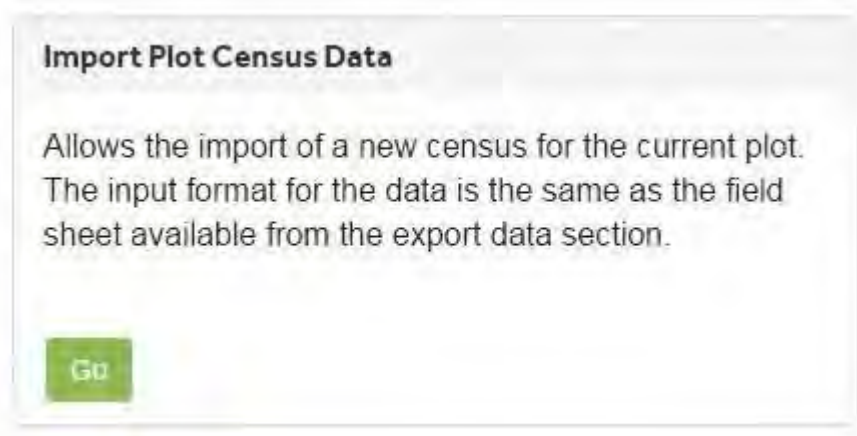
The Upload options include:

- [Update determinations](#) (See 5.7.7)
- [Import Liana Plot Census Data](#) (See 5.7.2)
- [Upload Multi-Census Data](#) (See 5.7.3)
- [Upload photographs](#) (See 5.7.6)
- [Import Plot Census Data](#) (See 5.7.1)
- [Import Plot Measurements](#) (See 5.7.4)
- [Import plot vouchers](#) (See 5.7.5)

Note: To create a new plot and upload the first census you need use the [Import Plot Wizard](#). (See 5.13)

## 5.7.1 Import New Census

To start a new census upload click on the **Plot census Import Wizard box**. The Welcome Screen will be displayed. Click on the Go Button to upload a new census.



### 5.7.1.1 Census Dates

In the **Census Header Details screen** enter the start and end dates of the field campaign. The dates should be entered in dd/mm/yyyy format. After entering the dates click Next.

### Import Plot: Census Header Details

Plot Code: TEG-39 Plot Name: Test Plot 349

**Census No**  
1

**Census Start Date** **Census End Date**

11 April 2016 11 April 2016

**Comments**

The **Census End Date** has to be greater than the **CensusStart Date**. If an earlier start date is entered in the **Census End Date** text box, the wizard will display an error message and you will not be able to continue with the upload.

### Import Plot: Census Header Details

Plot Code: TEG-39 Plot Name: Test Plot 349

Census Start Date cannot be greater than Census End Date

**Census No**  
1

**Census Start Date** **Census End Date**

01 January 2003 02 January 2002

Census Start Date cannot be greater than Census End Date

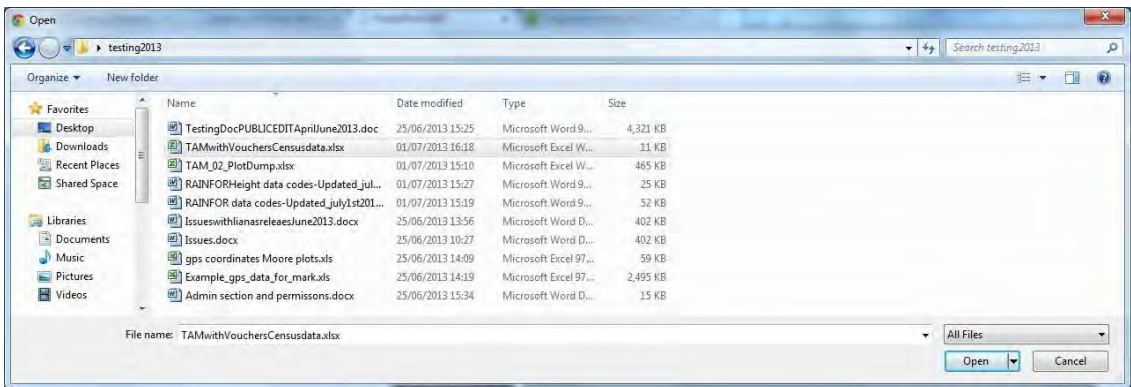
**Comments**

## 5.7.1.2 Census Data Upload

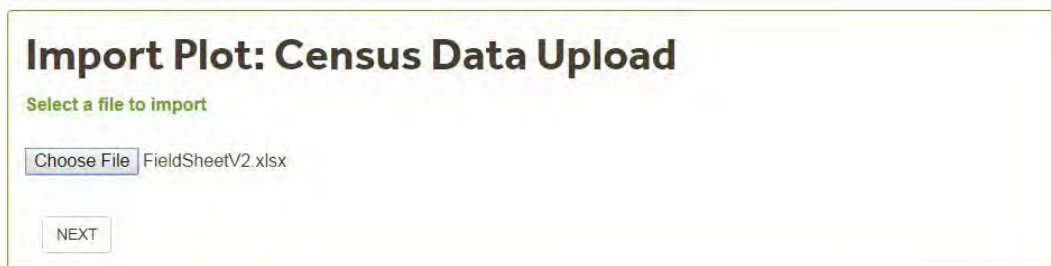
In **Census Data Upload** screen click on the **Choose File** button to search for the file you want to upload. The upload file has to be in Excel format.



A browser will open allowing you to search for the file to upload.



Once you have selected a file, the file name will appear next to the **Choose file** button. Click **Next**

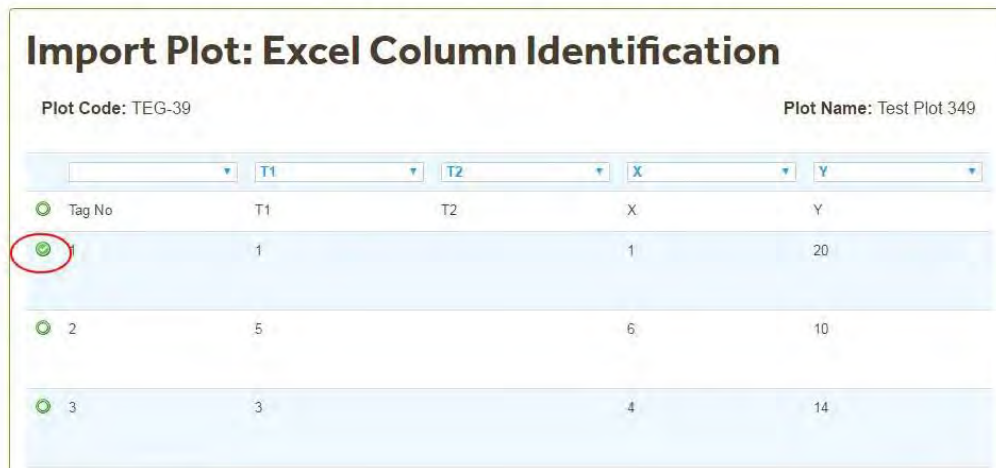


Then select the worksheet to upload by clicking on the selection button . Then click **Next**.

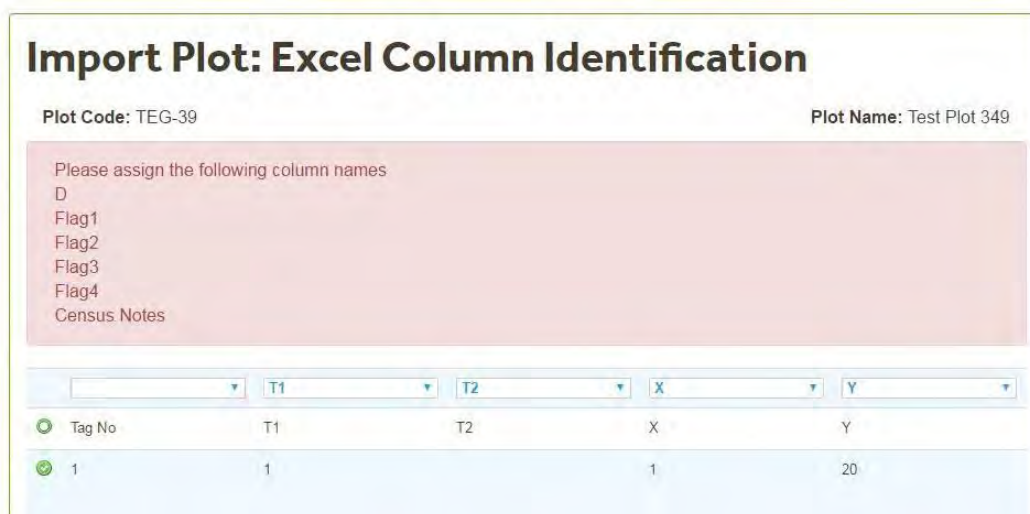


### 5.7.1.3 Excel Column Identification

In the **Excel Column Identification** screen, click on the green button on the **first row** of data. Note that this is the **first row** of actual data, not the header row. The wizard will identify the [headers](#) (See 5.13.4.1). If required, match the [headers](#) (See 5.13.4.1) manually by selecting from the drop down list. Click Next. If you're uploading a re-census please use the **New Tag** column to record/upload new tags.



If you did not select all the required headers the wizard will display an error message indicating which items need to be selected.





Match the missing items using the drop down box. In the example below the user is selecting the New Tag Column. After matching all the missing items click **Next**.

	T1	T2	X	Y
	T1	T2	X	Y
	1		1	20
	5		6	10
	3		4	14
	3		7	8

Note: The first census upload does not have a TreeID column as unique tree identifiers (TreeIDs) are assigned by the database after the first census upload is completed.

**Lianas.**

The selection of liana columns is the same as with trees. however lianas headers are slightly different.

### 5.7.1.4 Herbarium and Voucher Identification

If your upload file doesn't include voucher information continue to the [Species Identification](#) (See 5.7.1.5) section.


If the file includes voucher information then you first need to select the **Herbarium** where the specimens will be deposited. The database includes a list of Herbaria from tropical countries as recorded in [Index Herbariorum](#).


Uploading voucher information with Plot-Census information only allows for single Herbarium selection. If the specimens collected will be deposited in different Herbaria please use the Voucher Upload Format .

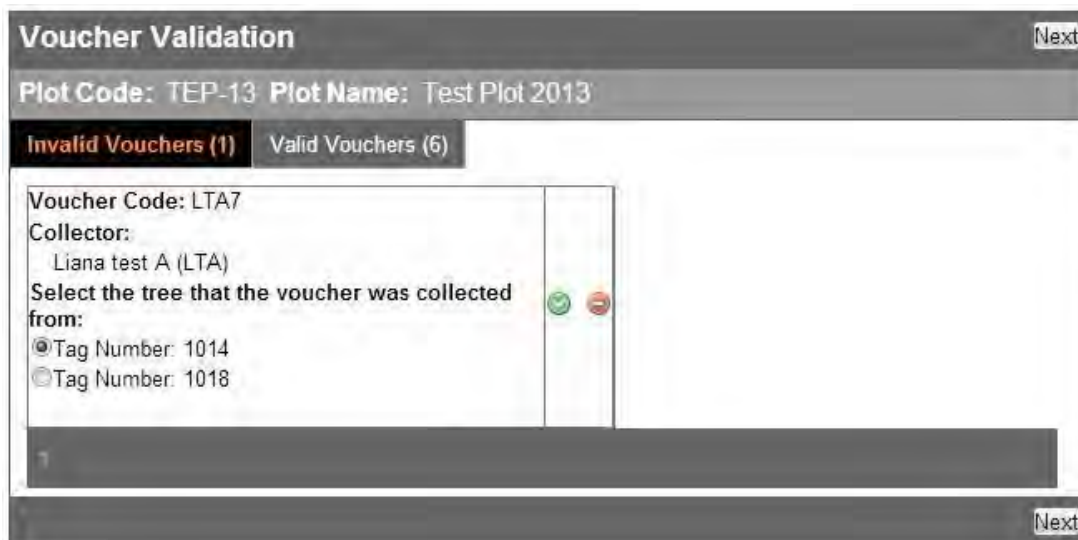
Then wizard will then Identify the Collectors based on the Initials. UnIdentified collectors will be displayed in the Unidentified Collectors Tab. Check the information and then click Next.

If the initials where not identified search for the [participant's](#)(See 5.4.3.1) name.

The **Voucher Validation** Screen will check that the voucher information is correctly coded and that only one tree is assigned as collected from. In the example below, multiple trees are recorded as Collected from.

Click on the Edit  icon to update the information. In the example below the wizard lists the trees (Tag numbers) marked as collected from. Use the tick box to select the

collected from tree. Then Click on the accept  button. The record will be moved to the Valid Vouchers tab. Click **Next** to continue with the census upload.



### 5.7.1.5 Species Identification

The species names will be matched against the database master list. Any species not found in this list will be displayed in the **Unidentified Species** tab of the **Species Identification** Screen. If this is the case, you could do the following:

- stop the upload process and revise the species names in the Excel file,
- edit online the species information (See below)

If the species name you require is not present in the database, check if it is accepted on a taxonomic web resource used for [taxon scrubbing](#) (See 3.3) . If it is accepted by the taxonomic resource, send a request to the [database manager](#) to add the species name . Make a note of the tag. Upload as "indet " and make a note in tree notes. Update the species determination once the name has been added to the database.

#### How to edit and update Species names not found in the Master list (during census upload)?

In the example below 3 species names were not found in the Master list, however the user wants to proceed with the upload and use the Edit and Search functionality.

The wizard matches the species names to the Master List and will make suggestions when there isn't a full match. In the example below, the wizard matched *Trigynaea duck* (*Annonaceae*) to *Trigonella dura* (*Fabaceae*).

The matching algorithm uses the Family and species (binomial) information. The match is first based on the family and then on the species information. In this example the suggestion is based on species found in the Fabaceae family. In this case, the wizard suggestion is not useful, as the file uploaded has an error and *Trigynaea* was entered as a Fabaceae.







However, the two other suggestions can be considered correct and we can assume that there was a typing error in the species names (i.e. the extra s in *Euterpe precatorias*, instead of *Euterpe precatoria* ).


**Import Plot: Species Identification**

Unidentified Species (3) | Identified Species (4)

Plot Code: TEG-39 | Plot Name: Plot Test Teg 39

NO. OF ROWS ▾

Family: Fabaceae Species: Trigynaea duck Identified Species: Fabaceae Trigonella dura	 
Family: Arecaceae Species: Euterpe precatorias Identified Species: Arecaceae Euterpe precatoria	 
Family: Arecaceae Species: euterpe pressssa Identified Species: Arecaceae Euterpe precatoria	 

If you do not agree with the **Identified Species** you can edit the information by clicking on the **Edit icon**  . The detailed instructions are in the [Edit Species](#)(See 5.3.4.1) section.

In the example, want to update the Species to *Trigynaea duckei* (Family Annonaceae). We want to accept the suggestions for *Euterpe precatoria*. To accept a suggestion click on the confirm

Unidentified Species (2) | Identified Species (5)

Plot Code: TEG-39 | Plot Name: Plot Test Teg 39

NO. OF ROWS ▾

Family: Arecaceae Species: Euterpe precatorias Identified Species: Arecaceae Euterpe precatoria	 
Family: Arecaceae Species: euterpe pressssa Identified Species: Arecaceae Euterpe precatoria	 

Once you have revised all the **Unidentified Species**, the Unidentified species tab should be empty. Then click Next.

**Import Plot: Species Identification**

Unidentified Species (0) Identified Species (7)

Plot Code: TEG-39 Plot Name: Plot Test Teg 39

NO. OF ROWS ▾

NEXT

### 5.7.1.6 Tree Identification

The **Tree Identification Screen** for recensuses displays 5 tabs:

- Unidentified trees,
- New Recruits,
- Changed Records,
- Identified trees, and
- Missing trees.

## Import Plot: Tree Identification

Unidentified Trees (2)
New Recruits (3)
Changed Records (3)
Identified Trees (6)
Missing Trees (1)

Plot Code: TEG-39
Plot Name: Plot Test Teg 39

CONFIRM ALL
NO. OF ROWS ▾

Tag Number: 24 ✎ - +

Species: Indet indet indet indet

Identified Species: Indet Indet indet

X: 12

Y: 6

Sub Plot T1: 5

Sub Plot T2:

Status: Synonym Mismatch - Requires Explicit Confirmation

Tag Number:

Species:

Identified Species: Indet Indet indet

X:

Y:

Sub Plot T1:

Sub Plot T2:

Status: Tree Tag Missing - Requires Explicit Confirmation

1

NEXT

---

### Unidentified trees tab

The **Unidentified Trees** tab lists trees where there is an inconsistency in the taxonomic information.

Check they are correct. Edit, Delete or Confirm each unidentified tree by clicking on the appropriate icon.

After accepting or confirming all the unidentified trees move to the **new recruits** tab.

Fore more information on how to manage Unidentified Trees click [here](#)(See 5.13.7).

---

### New Recruits tab

After confirming the trees in the Unidentified trees tab these trees should move to the **New Recruits** tab.

---

### Changed Records Tab

The changed Records tab displays survivors that had:

- Changes in determination
- Changes in Coordinates and subplot.
- Changes in Tag

You must confirm these changes before you can move to the next screen. Select the confirm (+) icon next to each tree or click on the **Confirm All** button at the top of that tab.

The screenshot shows the 'Import Plot: Tree Identification' interface. At the top, there are tabs for 'Unidentified Trees (0)', 'New Recruits (5)', 'Changed Records (3)', 'Identified Trees (5)', and 'Missing Trees (1)'. Below the tabs, the 'Plot Code' is 'TEG-39' and the 'Plot Name' is 'Plot Test Teg 39'. A 'CONFIRM ALL' button is on the left, and a 'NO. OF ROWS' dropdown is on the right. Three tree records are listed, each with a red circle highlighting a change:

- Tag Number: 1** (circled in red). Species: **Old:** Fabaceae Inga tessmannii **New:** Fabaceae Trignyaea duck. Identified Species: Annonaceae Trignyaea duck. X: 1, Y: 20, Sub Plot T1: 1, Sub Plot T2: .
- Tag Number: 3** (circled in red). Species: **Old:** Olacaceae Heisteria indet **New:** Arecaceae Euterpe precatorias. Identified Species: Arecaceae Euterpe precatoria. X: 4, Y: 14, Sub Plot T1: 3, Sub Plot T2: .
- Tag Number: Old: 4 New: 11.B** (circled in red). Species: **Old:** Olacaceae Heisteria indet **New:** Arecaceae euterpe pressssa. Identified Species: Arecaceae Euterpe precatoria. X: 7, Y: 8, Sub Plot T1: 3, Sub Plot T2: .

### Identified Trees Tab

The **Identified Trees** tab lists all trees (survivors) that were recognised by the database from the previous census

You can confirm all the revisions by clicking

on the **Confirm All** button or you can revise and confirm each tree individually. We recommend checking each tree individually.

When uploading a new plot-census all records should be identified as New Recruits because they are new entries in Forestplots.net. The number of



records in the New Recruits tab should correspond to the number of records in the file. Detailed information is displayed for each individual identified/not identified tree.


---

The **Missing Trees** tab lists all trees, uploaded in previous censuses to the database, that are not included in the upload file for the current census (this is usually because they died in a previous census).

### 5.7.1.7 Record Data Validation

At the **Record Validation** stage the wizard checks:

- that **diameters** (mm), **heights** (m) and **POM** (m) are entered using the correct format. Diameters and POMs have to be integers (no decimals or letters). Heights can be entered using decimals (no letters). See the [Coded Section](#) (See 3.4) for more information.
- that all the [Flags \(1 to 5\)](#) (See 3.4.9) comply with the coding protocols and rules.
- that the [Liana Index \(LI\)](#) (See 3.4.11) and [Crown Illumination Index \(CI\)](#) (See 3.4.12) ) comply with the coding protocols and rules.

In the example below there are 8 Invalid records and 5 Valid records. To revise and edit the invalid records click on the **Edit** button . To delete record click on the - button (this is not recommended).

### Import Plot: Tree Identification

[Unidentified Trees \(0\)](#)
[New Recruits \(5\)](#)
[Changed Records \(3\)](#)
[Identified Trees \(5\)](#)
[Missing Trees \(1\)](#)

**Plot Code:** TEG-39 **Plot Name:** Plot Test Teg 39

**Tag Number:** 1  
**Species:** ~~Old: Fabaceae Inga tessmannii~~ **New: Fabaceae Trignyaea duck**  
**Identified Species:** Annonaceae Trignyaea duckel  
**X:** 1  
**Y:** 20  
**Sub Plot T1:** 1  
**Sub Plot T2:**

**Tag Number:** 3  
**Species:** ~~Old: Olacaceae Heisteria indet~~ **New: Arecaceae Euterpe precatorias**  
**Identified Species:** Arecaceae Euterpe precatoria  
**X:** 4  
**Y:** 14  
**Sub Plot T1:** 3  
**Sub Plot T2:**

**Tag Number:** ~~Old: 4~~ **New: 11.B**  
**Species:** ~~Old: Olacaceae Heisteria indet~~ **New: Arecaceae euterpe presssa**  
**Identified Species:** Arecaceae Euterpe precatoria  
**X:** 7  
**Y:** 8  
**Sub Plot T1:** 3  
**Sub Plot T2:**

### Diameters, POM, height

If after clicking on the **Edit Button** you click on the **Accept** button (without any revisions) , a warning message will be displayed. Check with the original field sheets the source of the problem and correct using the Edit Screen or in the excel field sheet file (if you decide to correct using the excel file you will needed to re-start the upload process)

In the example below, the letter "a" was entered in the POM column. Diameters, POM's and Heights should be numbers.

**Tag Number:** 3 ✓ ✕  
**Tag Number:**  
**Species:** Arecaceae Euterpe precatoria  
**DBH0:** 115

<p><b>DBH1</b></p> <input style="width: 90%;" type="text" value="115"/>	<p><b>DPOM1-1</b></p> <input style="width: 90%;" type="text"/>
<p><b>POM</b></p> <input style="width: 90%;" type="text" value="a"/> <p style="font-size: small; color: red;">Invalid format specified for POM</p>	<p><b>Height</b></p> <input style="width: 90%;" type="text" value="0"/>
	<p><b>F1</b></p> <input style="width: 90%;" type="text" value="a"/>

POM information is compulsory and if this information is missing a warning message will also be displayed.

Tag Number: 2  
 Tag Number: 2  
 Species: Myristicaceae Iryanthera laevis  
 DBH0: 0

DBH1: 100

POM:

POM is required

DPOM t-1:

Height:

F1: 0

After correcting the value, click on the **Accept** button. The record will move to the Valid Records Tab.

### Flag 1 to 4

The wizard checks that the [RAINFOR codes](#) (See 3.4.9) have been applied correctly. In the example below there is an inconsistency, code **c** is for trees that are leaning and code **d** is for trees that are fallen .

Tag Number: 21  
 Tag Number: 21  
 Species: Fabaceae Apuleia leiocarpa  
 DBH0: 120

DBH1: 120

POM: 1300

F1: cd

F1 does not have a valid combination of characters specified: c

DPOM t-1:

Height:

F2: 1

F3: 0

In the example below the [Flag1-Flag2](#)(See 3.4.9) combination is incorrect. If a tree is alive then F2 should be 1.

Tag Number: 23  
 Tag Number: 23  
 Species: Nyctaginaceae Neea indet  
 DBH0: 107

DBH1: 107  
 DPOM t-1:

POM: 1300  
 Height:

F1: a  
 F2: 0  
 F2 does not have a valid combination of characters specified: 0

F3: 0  
 F4: 0

F5:   
 Liana Crown Infestation:

In the example below **Flag 4** is missing. Flag 4 is obligatory for alive trees. If **Flag 4** is missing, and you click on the **Accept** button a warning message will be displayed: Data Maniulation: This field is requiered. The same rules apply for **Flag 3**.

F4 is required

Tag Number: 23  
 Tag Number: 23  
 Species: Fabaceae Apuleia leiocarpa  
 DBH0: 900

DBH1: 900  
 DPOM t-1:

POM: 1300  
 Height:

F1: a  
 F2: 1

F3: 0  
 F4:   
 F4 is required

If height was measured and recorded in the upload file, there should be a [Flag 5](#)(See 3.4.10) value(height measurement code).

If Flag 5 is missing, you will need to revise and correct.

F5 is required
✓
✗

Tag Number: 3  
Tag Number:  
Species: Arecaceae Euterpe precatoria  
DBH0: 115

<p><b>DBH1</b></p> <input style="width: 90%;" type="text" value="115"/>	<p><b>DPOM t-1</b></p> <input style="width: 90%;" type="text"/>
<p><b>POM</b></p> <input style="width: 90%;" type="text" value="1300"/>	<p><b>Height</b></p> <input style="width: 90%;" type="text" value="10"/>
<p><b>F1</b></p> <input style="width: 90%;" type="text" value="a"/>	<p><b>F2</b></p> <input style="width: 90%;" type="text" value="1"/>
<p><b>F3</b></p> <input style="width: 90%;" type="text" value="0"/>	<p><b>F4</b></p> <input style="width: 90%;" type="text" value="0"/>
<p><b>F5</b></p> <input style="width: 90%;" type="text"/>	<p><b>Liana Crown Infestation</b></p> <input style="width: 90%;" type="text"/>

F5 is required

### Liana Index

When an invalid [Liana Crown Infestation Code](#)(See 3.4.11) has been entered, you need to revise the field sheets and correct.

F5 is required
✓
✗

Tag Number: 1  
Tag Number:  
Species: Annonaceae Trigynaea duckei  
DBH0: 0

<p><b>DBH1</b></p> <input style="width: 90%;" type="text" value="0"/>	<p><b>DPOM t-1</b></p> <input style="width: 90%;" type="text"/>
<p><b>POM</b></p> <input style="width: 90%;" type="text" value="100"/>	<p><b>Height</b></p> <input style="width: 90%;" type="text" value="10"/>
<p><b>F1</b></p> <input style="width: 90%;" type="text" value="a"/>	<p><b>F2</b></p> <input style="width: 90%;" type="text" value="1"/>
<p><b>F3</b></p> <input style="width: 90%;" type="text" value="0"/>	<p><b>F4</b></p> <input style="width: 90%;" type="text" value="0"/>
<p><b>F5</b></p> <input style="width: 90%;" type="text"/>	<p><b>Liana Crown Infestation</b></p> <input style="width: 90%;" type="text" value="5"/>

Liana Crown Infestation does not have a valid combination of characters specified: 5

### Crown Illumination Index

When an invalid [Crown Illumination Index](#)(See 3.4.12) Code has been entered, you need to revise the field sheets and correct.

Tag Number: 3  
 Tag Number:  
 Species: Arecaceae Euterpe precatoria  
 DBH0: 115

DBH1: 115  
 DPOM t-1:  
 POM: 1300  
 Height: 10  
 F1: a  
 F2: 1  
 F3: 0  
 F4: 0  
 F5: 4  
 Liana Crown Infestation:  
 Crown Illumination: 3x  
 Crown Illumination does not have a valid combination of characters specified: x

Once all the **Invalid Records** have been revised and corrected the **Invalid Records** tab should be empty and all the records should be included in the **Valid Records** tab.

**Import Plot: Record Data Validation**

Invalid Records (0) Valid Records (12)

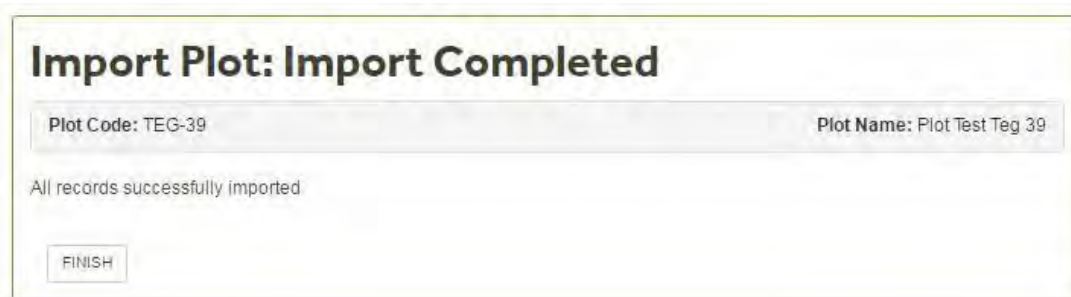
Plot Code: TEG-39 Plot Name: Plot Test Teg 39

REMOVE ALL INVALID RECORDS NO. OF ROWS ▾

NEXT

### 5.7.1.8 Import Completed

The **Import Completed** screen indicates that the new census has been uploaded successfully and that the data import is complete. Click on **Finish**.



## 5.7.2 Import Liana Plot Census Data

The Liana Plot Census Import Wizard follows the same steps as the [Tree Census Upload](#) (See 5.13) (for uploading first census) and the [Import New census](#) (See 5.7.1) (for uploading a re-census).

The data should be formatted as described in the [Lianas Coded Data](#) (See 3.4.16) and [Lianas Diameter](#) (See 3.4.15) section.

## 5.7.3 Upload Multi-Census Data

The **Upload Multi-Census Data** allows you to upload updates and corrections for **multiple censuses at once**, using the [Plot Dump](#) (See 5.15.1) or [Quality Control Check](#) (See 5.16.2) file formats. In all cases, always document changes so it is transparent as to what you have done by using Flag4 and the comments section. You need to be clear about the change and why the change has been made. It should be clear to another researcher 5 years in the future when the plot is next recensused.

Run the Auto POM wizard again after Quality Controls and Multicensus Upload. This is certainly necessary when POM changes were altered or if DBH2 of certain trees was extrapolated because DBH2 and DBH3 need to be standardized. For a final check-up, download the new plot dump and check if all  $F4 > 0$  for all trees where  $DBH0 \neq DBH1$ .

Also run the Quality Control Checking again. Run the automated POM change again. There should be no values to check left in the Quality Control dump.

The following information can be **updated** using the Upload Multi Census-Data wizard:

- diameter measurements (DBH1, 2 and 3) and POM
- flags 1-4 (alive status, death status, measurement technique and post-field data management)
- census comments



- Height and Flag 5
- [C](#)(See 3.4.12)
- [L](#)(See 3.4.11)

It is not possible to make changes to tree information such as taxonomy, subplot or co-ordinates. It is also not possible to add measurements for trees not previously recorded in a census.

---

**(The details of this section is under revision.)**

From the [Data Import](#)(See 5.7) Menu Screen for a plot, click on the **Upload Multi-Census Data** button to start the **Multi-Census Update Wizard**

On the **Census Data Upload** screen, click the **Choose File** button and select the file you would like to upload. The file to be uploaded should be an **updated/corrected** version of the Values to Check download or Plot Dump. Once selected click **Next** .

On the **Multi-Census Update Sheet Selection screen**, select the worksheet sheet from the file by clicking the adjacent circle. Click **Next** .

A list of all changes will be displayed in the **Change Confirmation** screen. The changes will be displayed in the Unconfirmed Changes tab. Edit and/or Confirm each change by clicking on the appropriate icon.

Once confirmed, each change will move into the Confirmed Changes tab of the same screen. Click **Next**

**The Update Completed** screen signals the multi-census upload was completed successfully. Click **Finish** or click the **Quality Control Checking** button to recheck the updated plot.

## 5.7.4 Import Plot Measurements

### Import Plot Measurements

To upload the measurements of a plot you first have to create an excel file of the data listing the following information for each point you want to upload:

- Name in GPS
- x and y values (e.g if you are uploading the 4 corners of the plot these might be: (0,0) (0,100) (100,0) (100,100))
- Longitude and Latitude (decimal)
- Date
- Is GPS: state true or false

**The Instructions section is under revision.**

**1) Plot Measurement Import Wizard:** click **Start**

**2) Select Plot Shape Type** screen: Select the shape of the plot from the drop down list. Options include square/rectangular (default), long transect, non contiguous and other. Once selected click **Next**.

**3) Plot Measurement Data Upload** screen: Select the Excel file containing the data by clicking Browse and locating the file in your directory. Once selected click **Next**.

**4) Plot Measurement Sheet Selection** screen: select the correct sheet within the Excel file by clicking the adjacent circle. Once selected click **Next**.

**5) Excel Column Identification** screen: highlight the first row of your measurements by clicking in the adjacent green circle. Note this should be the first row of the actual measurements, NOT the column headers. If you have used the same nomenclature as ForestPlots, the correct header names should automatically be selected. If required select the appropriate column headers from the drop down boxes. Once all columns have been identified click **Next**.

**6) Record Data Validation** screen: any invalid records will be listed in the Invalid Records tab of this screen. Possible reasons for Invalid records could include incorrect date format, incorrect altitude format (must be a rounded value to 0 decimal place), not confirmed as GPS). Edit or Delete any Invalid Records by selecting the appropriate icon. Once made valid all records should appear in the Valid Records tab. Click **Next**.

**7) Import Completed** screen appears once all measurements have been uploaded successfully. Click **Finish**.

## 5.7.5 Import Vouchers

**This section is under development.**

Note OF WHAT CAN BE UPDATED WHEN ADDING VOUCHERS.

NOT EVERYTHING IS COMPULSORY BUT double check and comment here.

## 5.7.6 Import Photos

**Import Photos. This section is under development.**

## 5.7.7 Update Determination

**Update determination. This section is under development.**

## 5.8 Plot Measurements

The **Plot Measurements** section displays information on the coordinates taken within the plot. It is useful to store the location of the 4 corners of the plot, or use it to map the subplots. The coordinate values entered in this screen are displayed in the [Layout](#) (See 5.10) section as a diagrammatic representation of the plot. Note that it is also possible to upload a list of plot measurements from an excel file.

The items that can be entered and edited in this section are described below.

Item	Description
<i>Measurement Date</i>	Enter the date the measurement was taken in the form dd/mm/yyyy
<i>Latitude Degrees</i>	Enter the latitude in decimal form
<i>Longitude Degrees</i>	Enter the longitude in decimal form
<i>Altitude</i>	Enter the altitude (masl). Note this must be a whole number between 1-4000, rounded to 0 decimal place.
<i>Is GPS</i>	Select if measurement was taken with a GPS. If not, leave blank.
<i>Name in GPS</i>	Enter the name/reference that the point is saved under in the GPS.
<i>X and Y</i>	Enter the location of the measurement within the plot.

To add a new Plot measurement click on the **Add Plot Measurement** Button.



**Modify Plot**

Plot Code: TEG-01 Plot Name: Test Plot

Geographical Forest Inventory Forest Type Forest Sampling Admin Participants

**Measurements** Layout Vouchers Images Soil Metadata

Add Plot Measurement


Name In GPS	Measurement Date	Latitude Degrees (Decimal)	Longitude Degrees (Decimal)	Altitude (masl)	X Y
	01/03/2010 00:00:00	0	0	1000	 

Save Back

The Add Plot Measurement Screen will Open. Enter the information requested directly into the text boxes. Click Save. Back will return you to the Measurements Section.

**Modify Plot Measurement**

Plot Code: TEG-01 Plot Name: Test Plot

Measurement Date: 

12/12/2005 00:00

Latitude Degrees (Decimal):

Longitude Degrees (Decimal):

Altitude (masl):

Is GPS:

Name In GPS:

X:

Y:

Transect Distance:

Non-Contiguous Part:

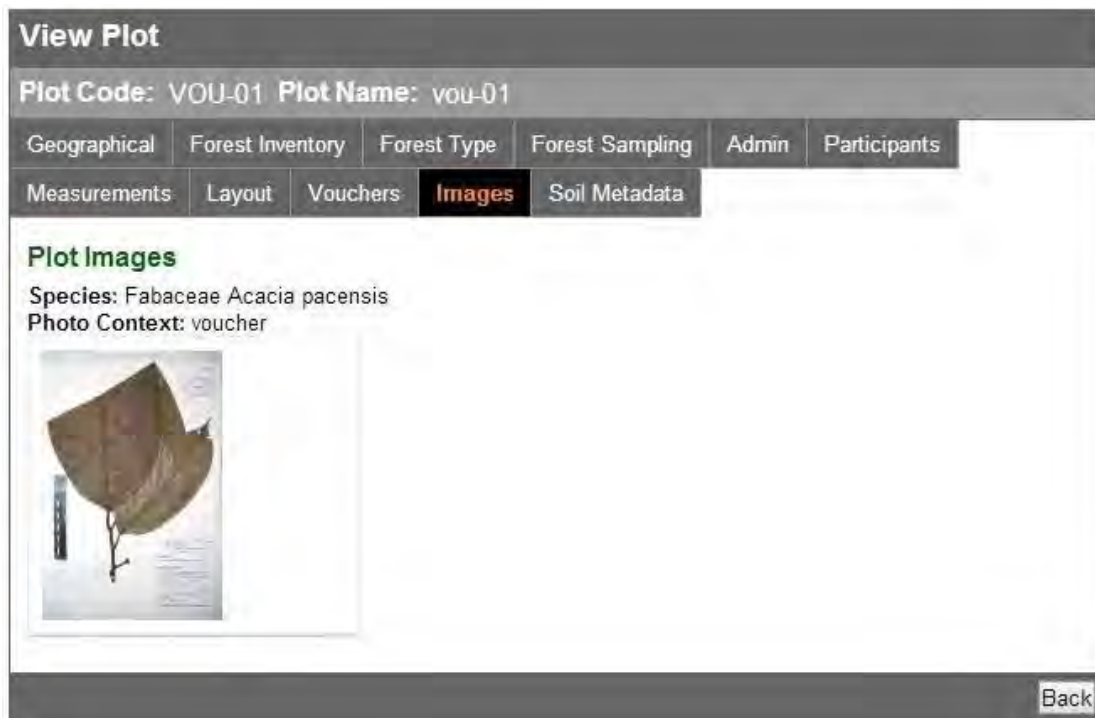
Save Back

## 5.9 Plot Photos

Photographs associated with plots only (with and without vouchers) will be displayed in the **Images** Tab in the Metadata section. The Plot images section also includes all the photographs associated to trees in a given plot. The

taxonomic information and photo context are displayed on top of the photograph.

Photographs displayed in this section can only be viewed. For more information on the information displayed in the images section go to the [View Photos](#) (See 5.3.4.7) section. For information on how to upload Photographs go to the [Import Photographs](#) (See 5.7.6) section.



## 5.10 Layout

The **Layout** section displays a view of the plot measurements entered in the Measurements section. Any amendments or additions to the Layout must be done through the [Measurements](#) (See 5.8) section.

The screenshot below shows the layout of the measurements for Plot TAM-01 (Peru).

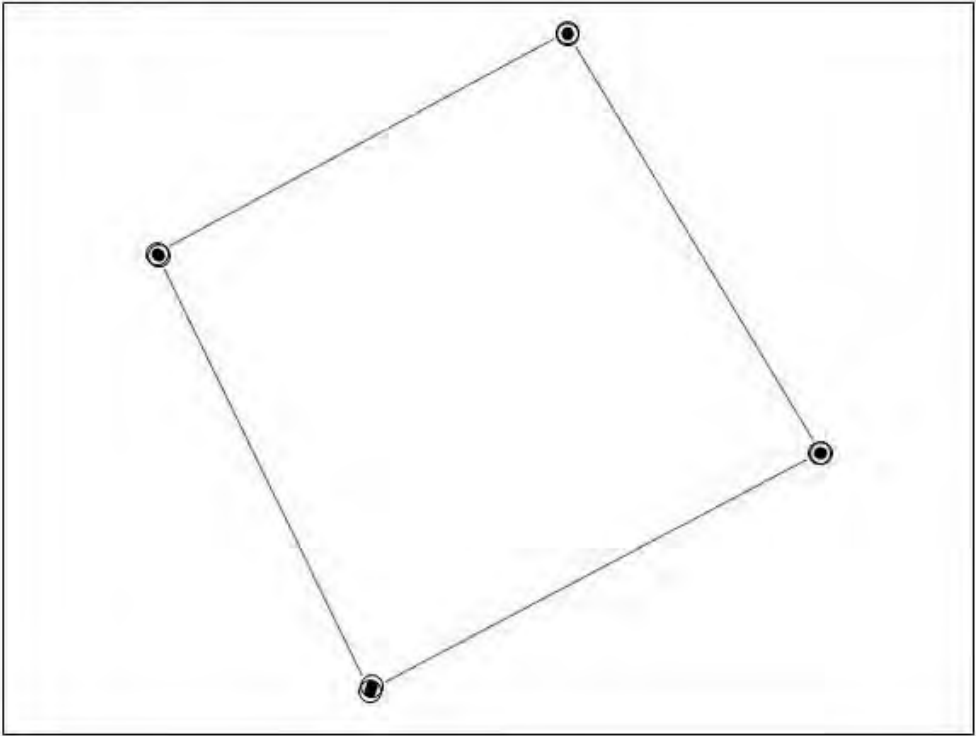
**View Plot**

Plot Code: TAM-01 Plot Name: Tambopata plot zero

Geographical Forest Inventory Forest Type Forest Sampling Admin Participants

Measurements **Layout** Vouchers Images Soil Metadata

Plot Name: Tambopata plot zero  
Plot Code: TAM-01



Back

## 5.11 Plot Vouchers

Voucher associated with plots are displayed in the Vouchers tab in the metadata Section.

Vouchers Displayed in this section can only be viewed or deleted. For more information on Voucher information displayed go to the [View Vouchers](#)(See 5.3.4.6) section. For information on how to upload Vouchers go to the [Import Vouchers](#)(See 5.7.5) section.

**Modify Plot**

Plot Code: TST-02 Plot Name: Test Soils TaxonManager plot2

Geographical Forest Inventory Forest Type Forest Sampling Admin Participants

Measurements Layout **Vouchers** Images Soil Metadata

Voucher Code	Collector	Herbarium	Year
GPS541	Georgia Psoils	HOXA de la Selva Central en Oxapampa-Pasco-Peru	2014
GPS702	Georgia Psoils	HOXA de la Selva Central en Oxapampa-Pasco-Peru	2015

Save Back

## 5.12 Participants

In this screen you can view participants by census date starting from the last census. In the example below the last census date is 2011.660 and the participants displayed correspond to that census. You can add or remove participants from a given census in the [Participants section](#) (See 5.4.3) on the Plot Census Section. You can sort information by Last Name, First Name and Category.

Geographical Forest Inventory Forest Type Forest Sampling Admin **Participants**

Measurements Layout Vouchers Images

Census Mean Date:

2011.660

Census Participants:

Last Name	First Name	Category
Chama Moscoso	Victor	Field Assistant
Huilca Aedo	Yuri Tomas	Field Assistant
Monteagudo	Abel	Field Leader
Pallqui Camacho	Nadir Carolina	Field Assistant
Peña Cruz	Antonio	Field Assistant
Pfuro	Amador	Field Assistant
Phillips	Oliver	Principal Researcher
Trevino	Italo	Field Assistant

Save Back



To view participants select a census date from the drop down box. Click on the desired census date:

**Census Mean Date:**

- 2011.660
- 2011.660
- 2008.620
- 2006.290
- 2003.685**
- 2000.575
- 1998.670
- 1994.670
- 1991.580
- 1989.435
- 1987.460
- 1983.790
- 1979.870

Name	Category
	Field Assistant
	Field Assistant
	Field Leader
	Field Assistant
	Field Assistant
	Field Assistant
	Principal Researcher
	Field Assistant

Save Back

The participants associated with the selected census date will be displayed.

**Census Mean Date:**

2003.685

**Census Participants:**

Last Name	First Name	Category
Baker	Tim	Field Leader
Honorio	Euridice	Field Assistant
Peña Cruz	Antonio	Field Assistant
Phillips	Oliver	Principal Researcher
Vasquez Martinez	Rodolfo	Principal Researcher

## 5.13 Import Plot

The **Plot Import Wizard** guides you through the full process of uploading the first census of a stem based plot.

To start the **Plot Import Wizard** click on the **Data Import** Icon and then click the **Go** button in the **Import Plot** tab. The **Data Import** screen displays different data import options depending on the user type. Users with Plot Editor role can Import and create new Plots.



Note that censuses must be imported one at a time and in chronological order. Census data must be uploaded from an Excel file formatted to fit with ForestPlots.net's protocol. Go to the [Post-field](#) (See 3.) Data handling section for more information on how to prepare the data before upload.

### 5.13.1 Plot Import Wizard

In the **New Plot Details** screen section you can enter the plot metadata.

At this stage the only compulsory information is: Plot Name and Plot Code

- **Plot Name**, which is the name of the plot used in the field,
- **Plot Code**, which should follow the standardized format use to archive plots in ForestPlots.net. The code consists of 3 letters followed by 2 numbers (XXX-00). Please discuss your plot codes with the database manager as they might have already been allocated to other plots.

All other [metadata](#) (See 5.2) information can be added at a later stage. After entering Plot Name and Plot Code and Plot Shape click next.

### Import Plot: New Plot Details

Geographical	
<b>Plot Code</b> <input type="text" value="TEG-39"/>	<b>Plot Name</b> <input type="text" value="Test Plot 349"/>
<b>Country</b> <input type="text"/>	<b>Latitude Decimal</b> <input type="text"/>
<b>Longitude Decimal</b> <input type="text"/>	<b>Altitude (masl)</b> <input type="text"/>
<b>Biogeographical Region</b> <input type="text"/>	<b>Cluster</b> <input type="text"/>
<b>Ecoregion</b> <input type="text"/>	<b>Allometric Region</b> <input type="text"/>
<b>Plot Area Location</b> <input type="text"/>	<b>State / County / Province</b> <input type="text"/>
<b>Plot Shape</b> <input type="text"/>	<b>Location Source</b> <input type="text"/>
Forest Type	

**Note:** Please discuss with the database manager which plot codes you want to use as this might have already been allocated to different plots.

## 5.13.2 Census Dates

In the **Census Header Details** screen enter the start and end dates of the field campaign. The dates should be entered in dd/mm/yyyy format. After entering the dates click Next.

### Import Plot: Census Header Details

Plot Code: TEG-39 Plot Name: Test Plot 349

**Census No**  
1

**Census Start Date** **Census End Date**

01/01/2003 02/01/2003  
11 April 2016 11 April 2016

**Comments**

This is the first census

NEXT

The **Census End Date** has to be greater than the **CensusStart Date**. If an earlier start date is entered in the **Census End Date** text box, the wizard will display an error message and you will not be able to continue with the upload.

### Import Plot: Census Header Details

Plot Code: TEG-39 Plot Name: Test Plot 349

Census Start Date cannot be greater than Census End Date

**Census No**  
1

**Census Start Date** **Census End Date**

01/01/2003 02/01/2002  
01 January 2003 02 January 2002  
Census Start Date cannot be greater than Census End Date

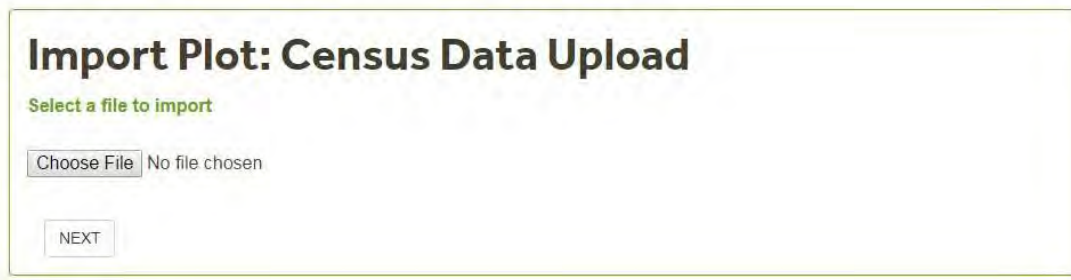
**Comments**

This is the first census

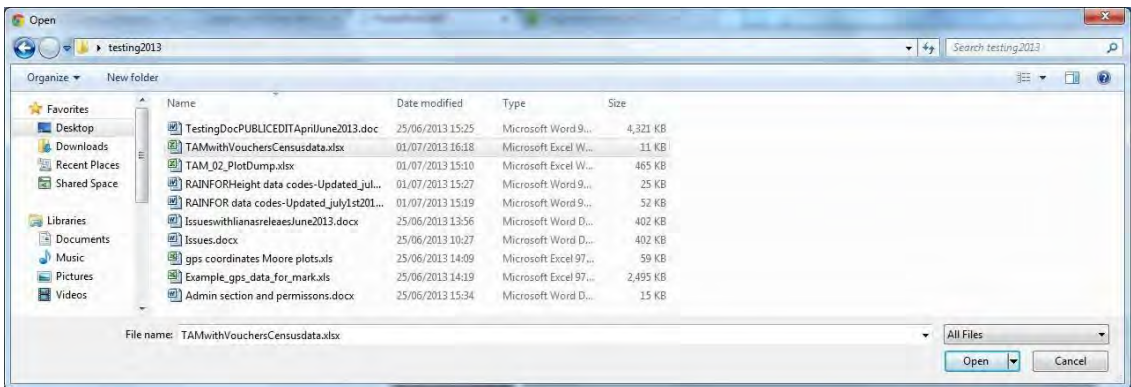
NEXT

## 5.13.3 Census Data Upload

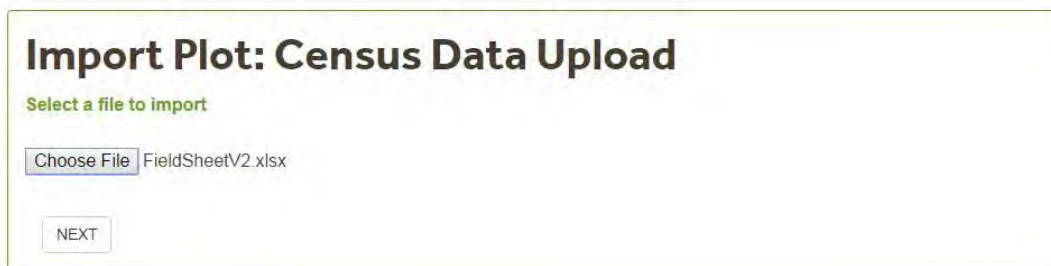
In **Census Data Upload** screen click on the **Choose File** button to search for the file you want to upload. The upload file has to be in Excel format.



A browser will open allowing you to search for the file to upload.



Once you have selected a file, the file name will appear next to the **Choose file** button. Click **Next**

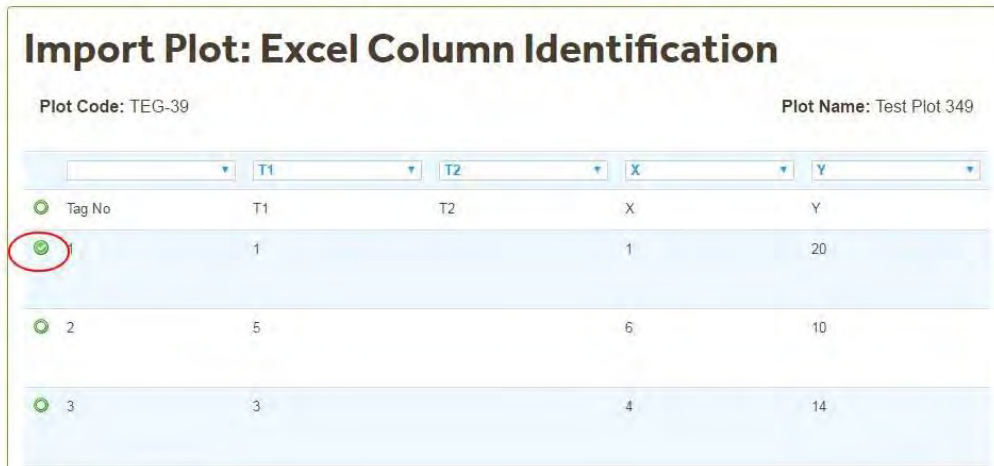


Then select the worksheet to upload by clicking on the selection button . Then click **Next**.

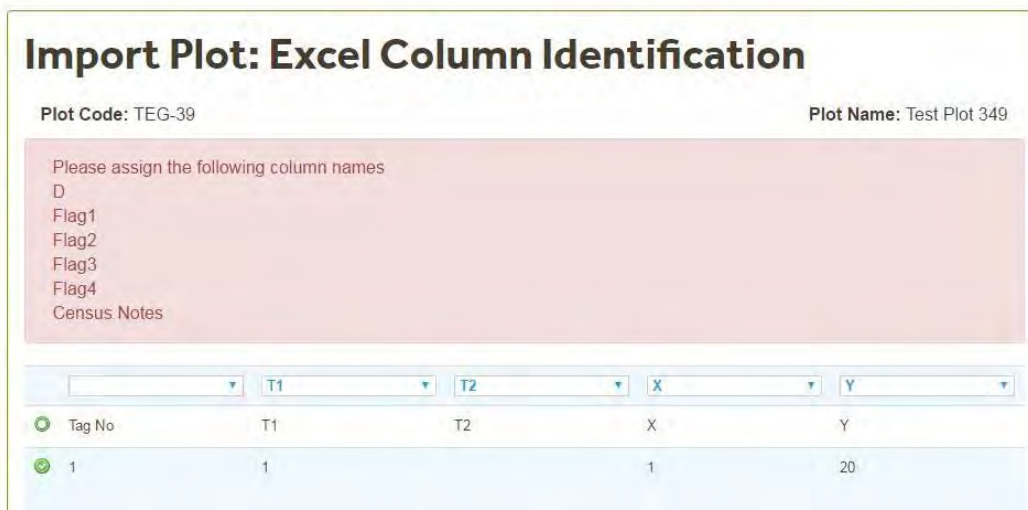


### 5.13.4 Excel Column Identification

In the **Excel Column Identification** screen, click on the green button on the **first row** of data. Note that this is the **first row** of actual data, not the header row. The wizard will identify the headers(See 5.13.4.1). If required, match the headers(See 5.13.4.1) manually by selecting from the drop down list. Click Next. If you're uploading a re-census please use the **New Tag** column to record/upload new tags.

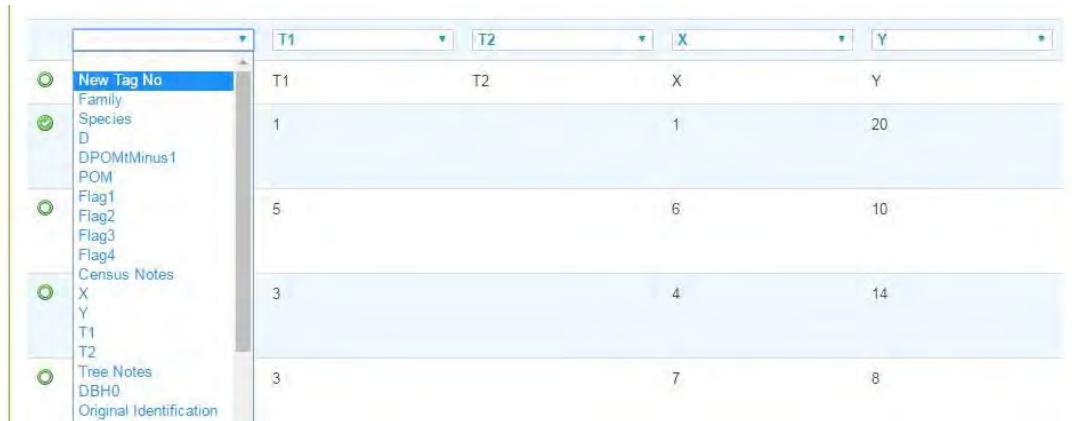


If you did not select all the required headers the wizard will display an error message indicating which items need to be selected.





Match the missing items using the drop down box. In the example below the user is selecting the New Tag Column. After matching all the missing items click **Next**.



Note: The first census upload does not have a TreeID column as unique tree identifiers (TreeIDs) are assigned by the database after the first census upload is completed.

### Lianas.

The selection of liana columns is the same as with trees. however lianas headers are slightly different.

## 5.13.4.1 Column Headers

The headers of the items available for **upload** are listed in the Table below

Header	Required
<a href="#">NewTagno</a> (See 3.4.1)	Yes. For Floristic Transects without Tags, you will need to <a href="#">explicitly confir</a> this is correct.
<a href="#">Family</a> (See 3.4.5)	Yes
<a href="#">Species</a> (See 3.4.5)	Yes
<a href="#">D (DBH1)</a> (See 3.4.7)	Yes
<a href="#">DBH2</a> (See 3.4.7)	No, but should be uploaded if there is a POM change.



<a href="#">DBH3</a> (See 3.4.7)	No, can be uploaded if POM change standardization is applied offline.
<a href="#">POM</a> (See 3.4.8)	Yes
<a href="#">Flag1</a> (See 3.4.9)	Yes
<a href="#">Flag2</a> (See 3.4.9)	Yes
<a href="#">Flag3</a> (See 3.4.9)	Yes if tree is alive
<a href="#">Flag4</a> (See 3.4.9)	Yes if tree is alive
<a href="#">Height</a> (See 3.4.10)	No
<a href="#">Flag 5</a> (See 3.4.10)	Yes, if height is measured.
<a href="#">Census notes</a> (See 3.4.13)	Yes (Header needs to be in the worksheet, if for some reason comments v cells can be empty)
<a href="#">x</a> (See 3.4.4)	No
<a href="#">y</a> (See 3.4.4)	No
<a href="#">t1</a> (See 3.4.3)	No
<a href="#">t2</a> (See 3.4.3)	No
<a href="#">Treenotes</a> (See 3.4.6)	No
<a href="#">DBH0</a> (See 7.2)	No, can be uploaded if corrections were applied offline.
<a href="#">Original Identification</a> (See 3.4.5)	No
<a href="#">LI</a> (See 3.4.11)	No
<a href="#">CI</a> (See 3.4.12)	No
<a href="#">Voucher Code</a> (See 3.4.14)	No
<a href="#">Voucher Collected</a> (See 3.4.14)	No

## 5.13.5 Herbarium and Voucher Identification

If your upload file doesn't include voucher information continue to the [Species Identification](#) (See 5.7.1.5) section.

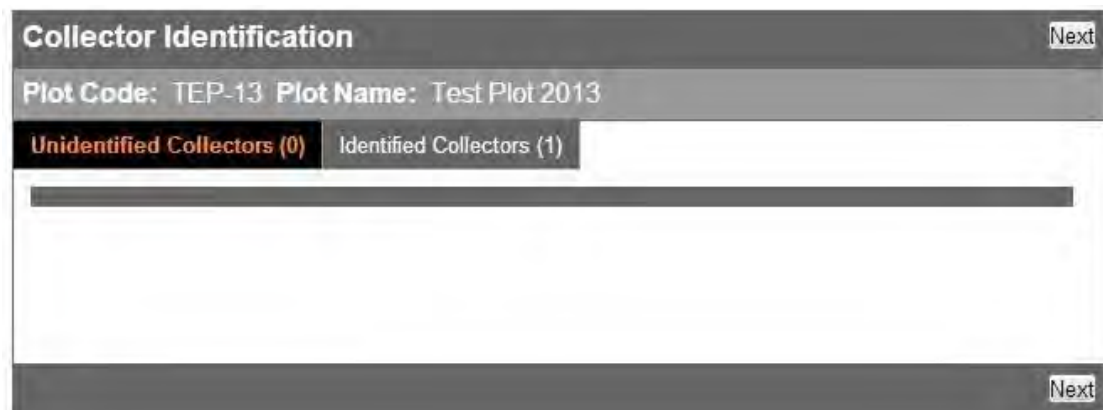
If the file includes voucher information then you first need to select the **Herbarium** where the specimens will be deposited. The database includes a list of Herbaria from tropical countries as recorded in [Index Herbariorum](#).

Uploading voucher information with Plot-Census information only allows for single Herbarium selection. If the specimens collected will be deposited in different Herbaria please use the Voucher Upload Format .



Then wizard will then Identify the Collectors based on the Initials. Unidentified collectors will be displayed in the Unidentified Collectors Tab. Check the information and then click Next.

If the initials were not identified search for the [participant's](#) (See 5.4.3.1) name.



The **Voucher Validation** Screen will check that the voucher information is correctly coded and that only one tree is assigned as collected from. In the example below, multiple trees are recorded as Collected from.

**Voucher Validation** Next



Plot Code: TEP-13 Plot Name: Test Plot 2013

**Invalid Vouchers (1)** Valid Vouchers (6)

Voucher Code: LTA7  
 Collector:  
 Liana test A (LTA)  
 Reason: Multiple trees have been associated with this voucher as the collected from tree

✎

Next

Click on the Edit  icon to update the information. In the example below the wizard lists the trees (Tag numbers) marked as collected from. Use the tick box to select the collected from tree. Then Click on the accept  button. The record will be moved to the Valid Vouchers tab. Click **Next** to continue with the census upload.

**Voucher Validation** Next

Plot Code: TEP-13 Plot Name: Test Plot 2013

**Invalid Vouchers (1)** Valid Vouchers (6)

Voucher Code: LTA7  
 Collector:  
 Liana test A (LTA)  
 Select the tree that the voucher was collected from:

Tag Number: 1014  
 Tag Number: 1018

✔ ✘

Next

## 5.13.6 Species Identification

The species names will be matched against the database master list. Any species not found in this list will be displayed in the **Unidentified Species** tab of the **Species Identification** Screen. If this is the case, you could do the following:

- stop the upload process and revise the species names in the Excel file,
- edit online the species information (See below)

If the species name you require is not present in the database, check if it is accepted on a taxonomic web resource used for [taxon scrubbing](#) (See 3.3) . If it is accepted by the taxonomic resource, send a request to the [database](#)

[manager](#) to add the species name . Make a note of the tag. Upload as "indet " and make a note in tree notes. Update the species determination once the name has been added to the database.

### How to edit and update Species names not found in the Master list (during census upload)?

In the example below 3 species names were not found in the Master list, however the user wants to proceed with the upload and use the Edit and Search functionality.

The wizard matches the species names to the Master List and will make suggestions when there isn't a full match. In the example below, the wizard matched *Trigynaea duck (Annonaceae)* to *Trigonella dura (Fabaceae)*.

The matching algorithm uses the Family and species (binomial) information. The match is first based on the family and then on the species information. In this example the suggestion is based on species found in the Fabaceae family. In this case, the wizard suggestion is not useful, as the file uploaded has an error and *Trigynaea* was entered as a Fabaceae.

However, the two other suggestions can be considered correct and we can assume that there was a typing error in the species names (i.e. the extra s in *Euterpe precatórias*, instead of *Euterpe precatória* ).

Unidentified Species (3)	Identified Species (4)
Family: Fabaceae Species: Trigynaea duck	Identified Species: Fabaceae Trigonella dura
Family: Arecaceae Species: Euterpe precatórias	Identified Species: Arecaceae Euterpe precatória
Family: Arecaceae Species: euterpe presssa	Identified Species: Arecaceae Euterpe precatória

If you do not agree with the **Identified Species** you can edit the information by clicking on the **Edit icon** . The detailed instructions are in the [Edit Species](#)(See 5.3.4.1) section.

In the example, want to update the Species to *Trigynaea duckei* (Family Annonaceae). We want to accept the suggestions for *Euterpe precatória*. To accept a suggestion click on the confirm

Unidentified Species (2) Identified Species (5)

Plot Code: TEG-39 Plot Name: Plot Test Teg 39

NO. OF ROWS ▾

Family: Arecaceae  
Species: Euterpe precatória  
Identified Species: Arecaceae Euterpe precatória

Family: Arecaceae  
Species: euterpe presssa  
Identified Species: Arecaceae Euterpe precatória

Once you have revised all the **Unidentified Species**, the Unidentified species tab should be empty. Then click Next.

### Import Plot: Species Identification

Unidentified Species (0) Identified Species (7)

Plot Code: TEG-39 Plot Name: Plot Test Teg 39

NO. OF ROWS ▾

NEXT

## 5.13.7 Tree Identification

The **Tree Identification Screen** displays each individual tree which:

- [had a species name revision at the Species Identification Stage.](#)
- [has invalid values in the x and y coordinates](#)
- [is missing a Tree Tag](#)

You can confirm all the revisions by clicking on the **Confirm All** button or you can revise and confirm each tree individually. We recommend checking each tree individually.










### Species Identification Issues

In the example below there are 5 trees with "identification" issues. The first tree (Tag Number 11), had a revision in the taxonomic information provided (Status: Synonym Mismatch- Requires Explicit Confirmation).

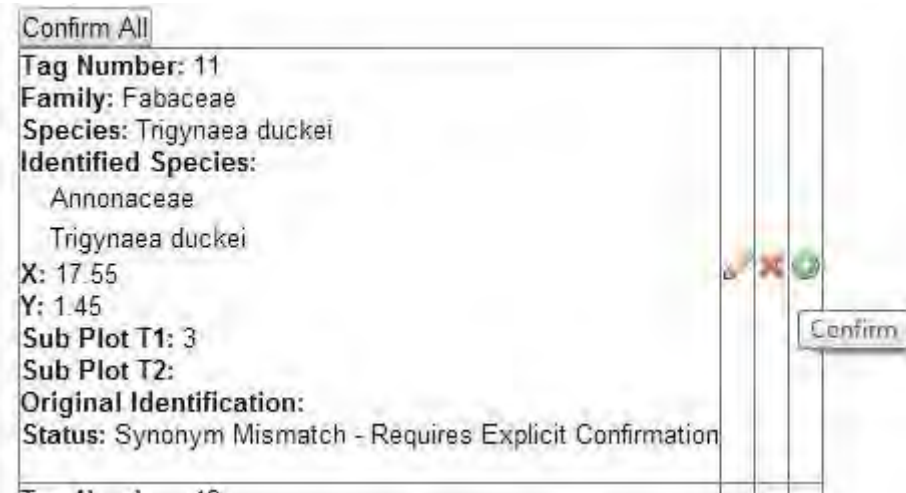
**Tree Identification** Next

Plot Code: TEP-13 Plot Name: Test Plot 2013

**Unidentified Trees (5)** New Recruits (20)

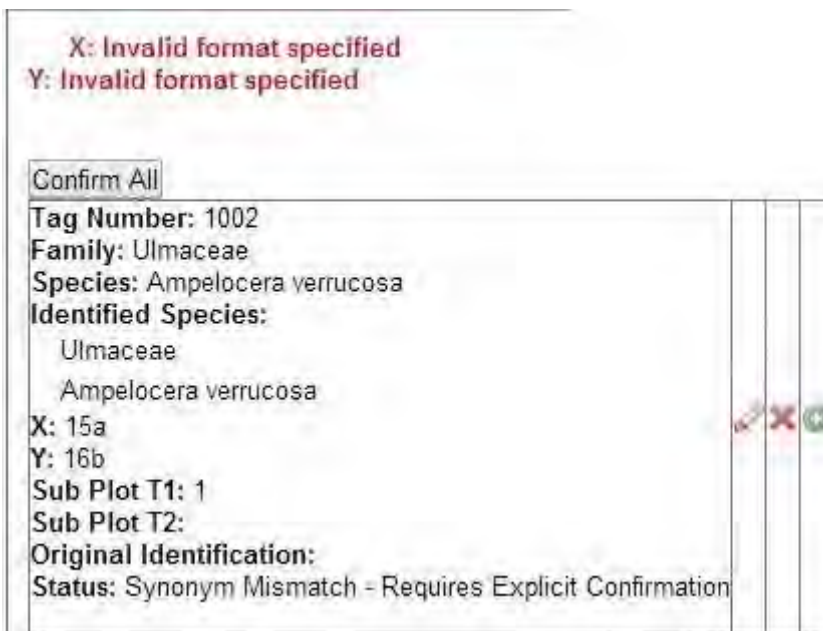
<p><b>Tag Number:</b> 11  <b>Family:</b> Fabaceae  <b>Species:</b> <i>Trigynaea duckei</i>  <b>Identified Species:</b>              Annonaceae              <i>Trigynaea duckei</i>  <b>X:</b> 17.55  <b>Y:</b> 1.45  <b>Sub Plot T1:</b> 3  <b>Sub Plot T2:</b>  <b>Original Identification:</b>  <b>Status:</b> Synonym Mismatch - Requires Explicit Confirmation</p>	  
<p><b>Tag Number:</b> 18  <b>Family:</b> Arecaceae  <b>Species:</b> <i>Euterpe precatórias</i>  <b>Identified Species:</b>              Arecaceae              <i>Euterpe precatória</i>  <b>X:</b> 15.6  <b>Y:</b> 16.3  <b>Sub Plot T1:</b> 5  <b>Sub Plot T2:</b>  <b>Original Identification:</b>  <b>Status:</b> Synonym Mismatch - Requires Explicit Confirmation</p>	  
<p><b>Tag Number:</b> 1002  <b>Family:</b> Ulmaceae  <b>Species:</b> <i>Ampelocera verrucosa</i>  <b>Identified Species:</b>              Ulmaceae              <i>Ampelocera verrucosa</i>  <b>X:</b> 15a  <b>Y:</b> 16b  <b>Sub Plot T1:</b> 1  <b>Sub Plot T2:</b>  <b>Original Identification:</b>  <b>Status:</b> Synonym Mismatch - Requires Explicit Confirmation</p>	  

As we have revised this information, in this case we only need to confirm that we accept the revision. Click on the **Confirm** button. This will move the record to the **New Recruits** Tab.



### Invalid x and y

If you click on the **Confirm** button and the tree has invalid information in the x and y coordinates an error message will be displayed. In the example below we need to correct the x and y coordinates as they include letters (values should be numeric).



To revise the information click on the **Edit** Button.



Confirm All

**Tag Number:** 1002  
**Family:** Ulmaceae  
**Species:** Ampelocera verrucosa  
**Identified Species:**  
    Ulmaceae  
    Ampelocera verrucosa  
**X:** 15a  
**Y:** 16b  
**Sub Plot T1:** 1  
**Sub Plot T2:**  
**Original Identification:**  
**Status:** Synonym Mismatch - Requires Explicit Confirmation

The display will change and you will be able to see all the sections that can be edited. In this example, x and y were corrected and the letters removed.

Confirm All	
Tag Number:	<input type="text" value="1002"/>
Family:	Ulmaceae
Species:	Ampelocera verrucosa
Identified Species:	Ulmaceae Ampelocera verrucosa
X:	<input type="text" value="15"/>
Y:	<input type="text" value="16"/>
Sub Plot T1:	<input type="text" value="1"/>
Sub Plot T2:	<input type="text"/>
Original Identification:	<input type="text"/>
Tree Notes:	<input type="text"/>

After revising click on the **Accept Button** and then on the **Confirm Button**.

### Missing Tree Tags

If a tree records is missing a Tree tag a warning message will appear: "Status: Tree Tag missing- Requires Explicit Confirmation".

We recommend you check the information using the original field sheets. If the Tree doesn't have a tag, then click on the **Accept Button** and then on the **Confirm Button**.

Confirm All

Tag Number:

Family: Fabaceae

Species: Apuleia leiocarpa

Identified Species:

Fabaceae

Apuleia leiocarpa

X: 5.57

Y: 18

Sub Plot T1: 6

Sub Plot T2:

Original Identification:

Status: Tree Tag Missing - Requires Explicit Confirmation

If you want to correct the information click on the **Edit Button** and then **Update** the Information.

Once all the information has been revised and updated all the records should be in the **New Recruits** Tab.

Tree Identification Next

Plot Code: TEP-13 Plot Name: Test Plot 2013

Unidentified Trees (0) New Recruits (22)

Confirm All

Next

## 5.13.8 Record Data Validation

At the **Record Validation** stage the wizard checks:

- that **diameters** (mm), **heights** (m) and **POM** (m) are entered using the correct format. Diameters and POMs have to be integers (no decimals or letters). Heights can be entered using decimals (no letters). See the [Coded Section](#) (See 3.4) for more information.
- that all the [Flags \(1 to 5\)](#) (See 3.4.9) comply with the coding protocols and rules.
- that the [Liana Index \(LI\)](#) (See 3.4.11) and [Crown Illumination Index \(CI\)](#) (See 3.4.12) ) comply with the coding protocols and rules.

In the example below there are 8 Invalid records and 5 Valid records. To revise and edit the invalid records click on the **Edit** button . To delete record click on the - button (this is not recommended).

### Import Plot: Tree Identification

[Unidentified Trees \(0\)](#)
[New Recruits \(5\)](#)
[Changed Records \(3\)](#)
[Identified Trees \(5\)](#)
[Missing Trees \(1\)](#)

Plot Code: TEG-39 Plot Name: Plot Test Teg 39

CONFIRM ALL NO. OF ROWS ▾

Tag Number: 1

Species: ~~Old: Fabaceae Inga tessmannii~~ **New: Fabaceae Trignyaea duck**

Identified Species: Annonaceae Trignyaea duckel

X: 1  
Y: 20  
Sub Plot T1: 1  
Sub Plot T2:

Tag Number: 3

Species: ~~Old: Olacaceae Heisteria indet~~ **New: Arecaceae Euterpe precatorias**

Identified Species: Arecaceae Euterpe precatoria

X: 4  
Y: 14  
Sub Plot T1: 3  
Sub Plot T2:

Tag Number: ~~Old: 4~~ **New: 11.B**

Species: ~~Old: Olacaceae Heisteria indet~~ **New: Arecaceae euterpe presssa**

Identified Species: Arecaceae Euterpe precatoria

X: 7  
Y: 8  
Sub Plot T1: 3  
Sub Plot T2:

### Diameters, POM, height

If after clicking on the **Edit Button** you click on the **Accept** button (without any revisions) , a warning message will be displayed. Check with the original field sheets the source of the problem and correct using the Edit Screen or in the excel field sheet file (if you decide to correct using the excel file you will needed to re-start the upload process)

In the example below, the letter "a" was entered in the POM column. Diameters, POM's and Heights should be numbers.

Tag Number: 3 ✓ ✕

Tag Number:

Species: Arecaceae Euterpe precatoria

DBH0: 115

<p><b>DBH1</b></p> <input style="width: 90%;" type="text" value="115"/>	<p><b>DPOM1-1</b></p> <input style="width: 90%;" type="text"/>
<p><b>POM</b></p> <input style="width: 90%;" type="text" value="a"/>	<p><b>Height</b></p> <input style="width: 90%;" type="text" value="0"/>
<p style="font-size: small; color: red;">Invalid format specified for POM</p>	
<p><b>F1</b></p> <input style="width: 90%;" type="text" value="a"/>	

POM information is compulsory and if this information is missing a warning message will also be displayed.

Tag Number: 2  
 Tag Number: 2  
 Species: Myristicaceae Iryanthera laevis  
 DBH0: 0

DBH1: 100

DPOM t-1:

POM:

POM is required

Height:

F1: 0

After correcting the value, click on the **Accept** button. The record will move to the Valid Records Tab.

### Flag 1 to 4

The wizard checks that the [RAINFOR codes](#) (See 3.4.9) have been applied correctly. In the example below there is an inconsistency, code **c** is for trees that are leaning and code **d** is for trees that are fallen .

Tag Number: 21  
 Tag Number: 21  
 Species: Fabaceae Apuleia leiocarpa  
 DBH0: 120

DBH1: 120

DPOM t-1:

POM: 1300

Height:

F1: cd

F2: 1

F3: 0

F1 does not have a valid combination of characters specified: c

In the example below the [Flag1-Flag2](#)(See 3.4.9) combination is incorrect. If a tree is alive then F2 should be 1.

Tag Number: 23  
 Tag Number: 23  
 Species: Nyctaginaceae Neea indet  
 DBH0: 107

DBH1: 107

POM: 1300

F1: a

F2: 0  
 F2 does not have a valid combination of characters specified: 0

F3: 0

F4: 0

F5:

Liana Crown Infestation:

In the example below **Flag 4** is missing. Flag 4 is obligatory for alive trees. If **Flag 4** is missing, and you click on the **Accept** button a warning message will be displayed: Data Maniulation: This field is requiered. The same rules apply for **Flag 3**.

F4 is required

Tag Number: 23  
 Tag Number: 23  
 Species: Fabaceae Apuleia leiocarpa  
 DBH0: 900

DBH1: 900

POM: 1300

F1: a

F2: 1

F3: 0

F4:

F4 is required

If height was measured and recorded in the upload file, there should be a [Flag 5](#)(See 3.4.10) value(height measurement code).

If Flag 5 is missing, you will need to revise and correct.

F5 is required
✓
✗

Tag Number: 3  
Tag Number:  
Species: Arecaceae Euterpe precatoria  
DBH0: 115

<p><b>DBH1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="115"/>	<p><b>DPOM t-1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text"/>
<p><b>POM</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="1300"/>	<p><b>Height</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="10"/>
<p><b>F1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="a"/>	<p><b>F2</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="1"/>
<p><b>F3</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="0"/>	<p><b>F4</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="0"/>
<p><b>F5</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text"/>	<p><b>Liana Crown Infestation</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text"/>

F5 is required

### Liana Index

When an invalid [Liana Crown Infestation Code](#)(See 3.4.11) has been entered, you need to revise the field sheets and correct.

Tag Number: 1
✓
✗

Tag Number:  
Species: Annonaceae Trigynaea duckei  
DBH0: 0

<p><b>DBH1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="0"/>	<p><b>DPOM t-1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text"/>
<p><b>POM</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="100"/>	<p><b>Height</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="10"/>
<p><b>F1</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="a"/>	<p><b>F2</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="1"/>
<p><b>F3</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="0"/>	<p><b>F4</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="0"/>
<p><b>F5</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text"/>	<p><b>Liana Crown Infestation</b></p> <input style="width: 95%; border: 1px solid #ccc;" type="text" value="5"/>

Liana Crown Infestation does not have a valid combination of characters specified: 5

### Crown Illumination Index



When an invalid [Crown Illumination Index](#)(See 3.4.12) Code has been entered, you need to revise the field sheets and correct.

Tag Number: 3  
 Tag Number:  
 Species: Arecaceae Euterpe precatoria  
 DBH0: 115

DBH1: 115  
 DPOM t-1:

POM: 1300  
 Height: 10

F1: a  
 F2: 1

F3: 0  
 F4: 0

F5: 4  
 Liana Crown Infestation:

Crown Illumination: 3x  
 Crown Illumination does not have a valid combination of characters specified: x

Once all the **Invalid Records** have been revised and corrected the **Invalid Records** tab should be empty and all the records should be included in the **Valid Records** tab.

**Import Plot: Record Data Validation**

Invalid Records (0) Valid Records (12)

Plot Code: TEG-39 Plot Name: Plot Test Teg 39

REMOVE ALL INVALID RECORDS NO. OF ROWS ▾

NEXT

### 5.13.9 Import Completed

}


The **Import Completed** screen indicates that the new census has been uploaded successfully and that the data import is complete. Click on **Finish**.






## 5.14 Sub Plot List

Click the Sub Plots List icon  to view/edit subplot Information.

The **Subplot List screen** displays the number/name of each Subplot T1 and their Area if this is available (ha).

You can sort by Sub Plot, Location or Area by clicking on the appropriate header. You can also filter by sub plot by typing the T1 into the search box and then clicking the filter  icon.



From the **Sub Plot List** you can View , edit  or delete  a Sub Plot by clicking on the appropriate icon. You can also add a new by clicking on the **Add Subplot** Button.

In the **Add Sub Plot** screen you can enter the new sub plot details including T1, Area, Location, Topography in relation to the landscape and Aspect. **Save** any changes. Back will return you to the previous screen.

The same information displayed in the **Add Subplot** screen will be displayed in the **View** and **Edit Subplot** Sections.


**Modify Sub Plot**

Plot Code: TEG-83 Plot Name: TestingGeorgiaPlotViews2012

Sub Plot T1: <input style="width: 90%;" type="text" value="1"/>	Area: <input style="width: 90%;" type="text" value="0.25"/>
Topography in relation to the landscape: <input style="width: 90%;" type="text" value="Lower Slope"/>	Aspect: <input style="width: 90%;" type="text" value="East"/>

Note: Only Subplots that are not associated with any tree can be deleted.

## 5.15 Data Export

To download data from a plot, click on the download icon  to open the **Data Export Menu** screen

Código de la Parcela : ABR-01 Nombre de la Parcela : Border Ranges Control plot 1

<p><b>Generar Archivo de la Parcela</b></p> <p>Download a full plot dump containing multi-census information for all trees in the plot in .xlsx format.</p>	<p><b>Generate Plot Dump (Legacy Format)</b></p> <p>Download a full plot dump containing multi-census information for all trees in the plot. This is in the older .xls format for compatibility with older browsers. Note, larger plots will not be available</p>
<p><b>Generar Hoja de Campo</b></p> <p>Download a tree fieldsheet for the current plot. The main fieldsheet is formatted to be printed and used directly in the field, along with additional information sheets.</p>	<p><b>Generate Liana Field Sheet</b></p> <p>Download a liana fieldsheet for the current plot. The main fieldsheet is formatted to be printed and used directly in the field, along with additional information sheets.</p>
<p><b>Generar Hoja de Información</b></p> <p>Download a plot information sheet.</p>	<p><b>Generate Soil Plot Dump</b></p> <p>Download a full soil data dump for the plot.</p>

**Data Export Menu** screen. From this screen click the appropriate button to:

- Generate Plot Dump (.xlsx or Legacy format)
- Generate Field Sheet
- Generate Information Sheet
- Generate Liana field Sheet

- Generate Information Sheet
- Generate Soil Plot Dump

## 5.15.1 PlotDump

To Generate a **Plot Dump** click on the **Generate Plot Dump** button. A plot dump is an Excel file listing all trees ever recorded in that plot. Tree identification, location and wood density information are stated for each tree, followed by all data recorded in each census. Census data includes [DBH0-4](#)(See 7.2) , POM and Forest Plot Flags 1-4 (alive status, death status, measurement technique and post-field data management). The Excel File also contains an information sheet with details of the Plot Dump download, how to cite the data, and Forestplots' Ethical Code and Data Sharing Policies.

You can **Open**, **Save** or **Cancel** the Plot Dump download.

If you want to Save the Plot Dump select the location and file name and click the Save Button.

The plot dump can be used to correct errors and update information (i.e. heights that were not uploaded when a census was first uploaded), using the [Upload Multi-Census Data Wizard](#).(See 5.7.3)

## 5.15.2 Field Sheets

To Generate a **Field Sheet** click on the **Generate Field Sheet** button

You can **Open**, **Save** or **Cancel** the download.

If you want to save the Field Sheet select the location and file name and click the **Save** Button.

- Field Sheet: lists all trees in a plot in a format ideal for use in the field and for entering the data electronically prior to upload to ForestPlots.net. Diameter measurements from the last 3 censuses (if applicable) are stated for each tree as well as the POM, census notes and flags for the last census uploaded. There is space to record the new diameter, POM, flags and census notes in the current census. Tree ID and New Tag columns are included, for facilitating upload to Forestplots.
- [Header Sheet](#)(See 5.15.2.1) : space to record plot metadata
- Census Notes Sheet: census notes for each tree in the previous census
- Information Sheet: details of the Field Sheet download, how to cite the data, and ForestPlots.net Ethical Code and Data Sharing Policies.

---

### Before going to the field.

Field sheet preparation

- Check that you have access to the plot data in ForestPlots.net. If not ask the project PI to email [admin@forestplots.net](mailto:admin@forestplots.net) requesting access to the plot(s) stating if you should have view only or edit rights.
- If needed, request an "all metadata" file with first and last census. Email [admin@forestplots.net](mailto:admin@forestplots.net).
- Check that you can view and download all the census information. If not please contact the database manager to check your permissions and the plot status.
- Before printing out the field sheets check the data of a plot dump against the previous census field sheets or the last census file if the field sheets are not available).
- Format and Print the field sheets. Don't delete any columns (columns can be "hidden" if necessary).
- Save a copy of the data on a pen drive.
- Check you have previous census liana data (if available). Format and print liana field sheets.
- Print old "Header" worksheet from previous census (if available).

---

### During the field campaign

- Record information as in the Field Manual follow the RAINFOR codes
- Add comments in the Census notes section.
- If there is change of tag write this in the tag Column and cross out the original tag number.
- If there is a change in POM write the diameter at the old POM in the census notes. If there is a POM change and the diameter at the old POM is affected by deformity also write this clearly in the census notes. Do not use this value.
- If there is a Species name change, write this in the census notes.
- Update missing or corrected information on T1, T2, x, y
- Make a note of the measurement technique (ladder, photo etc).
- Note start and end of field campaign for each plot.
- Note the names (first name, underline last name, institution and email) of participants.

---

### Post field data entry.

- Enter the data collected in the field in the Field Sheet worksheet.
- Enter the new tags in the "New Tag Column". The tags of the recruits should be entered in the "New Tag Column".
- If the previous POM is not affected by deformity, enter the diameter at the old POM in the column D2. If a tree has a POM change enter '60' in the column Flag 4. '6' indicate POM change and '0' that no other post-field data management occurred. Note: If the old POM is affected by buttressing then D2 is not acceptable; use comments sections to note this information.
- If there is a species name changes, enter the new name in the column species. The old name will not be deleted.
- Fill in all the flags including Flag 3 and Flag 4.
- Fill in the columns and flags of other information collected and other flags if you measured CI, LI, vouchers etc.
- Re-check that all the information noted in the field sheets matches the data entered.

## 5.15.2.1 Field Sheet Header

The Header worksheet should be printed and included with the Field Sheets taken to the field.

The Header worksheet has different sections to record:

- Field Campaign Information
- Plot Description
- How to Find the Plot
- Plot orientation and GPS coordinates
- Vegetation classification
- Disturbance
- Plot shape and layout
- Subplot and tree mapping
- Tree and liana minimum diameter
- Fragmentation

In the header sheet, sketch the plot with indication of slope direction and steepness, general plot description, general map with indications of how to find the plot, plot setup specifying subplot and tree mapping method.

The screenshot shows a Microsoft Excel spreadsheet titled 'Header' with the following sections:

- Plot information:** Fields for Plot code (TEG-01), Plot name (Test Plot), State/Country/Continent (near Sao Paulo, State 1, FRENCH GUIANA, South America), Census date, Funding project, Project PI(s), Inventory leader, and Botanist(s). A note states: "Note: standard plot set up is as below. Modify drawing to the right based on actual plot layout."
- Plot description:** A text area for a written description of the plot.
- Plot orientation:** Fields for compass bearing (true or magnetic north?), GPS coordinates (latitude (Northing), longitude (Easting)), and altitude (m) (50).
- Plot layout:** A section titled "Plot form, area and layout" containing a table for "Plot area (ha):", "Minimum plot dimension (m):", and "Maximum plot dimension (m):". It also includes checkboxes for "Corner stakes present (PVC/metal)?" and "Internal subplot stakes present (PVC or metal)?".
- Subplot and tree mapping:** A section with a note: "Note: standard tree mapping is with the origin always on the left as moving through a subplot, thus, the origin alternates sides based on the subplot. Standard plot set up is as below. Modify drawing to the right based on actual plot layout." It contains diagrams for "Standard example" and "Actual field system" showing subplot layouts with axes and dimensions.

## 5.15.3 Liana Field Sheet

Liana field sheet this section is under development

## 5.15.4 Information Sheet

This section is under development



## 5.15.5 Soil Plot Dump

This section is under development

## 5.15.6 Soil List

This section is under development.

## 5.16 Data Tools

Click on the **Data Tools** icon on the **Plot List** screen task bar to go to the data tools section.



From the Data Tools screen you have the option to start the following Wizards:

- the [Automated POM Change](#) (See 5.16.1) Wizard,
- the [Quality Control Checking Wizard](#) (See 5.16.2).

We recommend running the [Automated POM Change](#) (See 5.16.1) wizard after every new census upload.

### 5.16.1 Automated Pom Change

Only use this for trees with reliable DBH2 (i.e. D at old POM still not buttress-affected).

The **Automated POM change** Wizard will standardize the **DBH2** and **DBH3** sequences for all trees with a POM change in that plot. The Automated POM change Wizard should be run after each recensus upload and before running the [Quality Control Check Wizard](#) (See 5.16.2) .

Running the **Automated POM Change** wizard is required even if you have no POM changes during the current census, as trees with POM changes made in an earlier census need standardization for DBH2 and DBH3 in the current census. For more information go to the [Diameter Definitions](#) (See 7.2) section.

The Automated POM change standardizes **DBH2** and **DBH3** when:

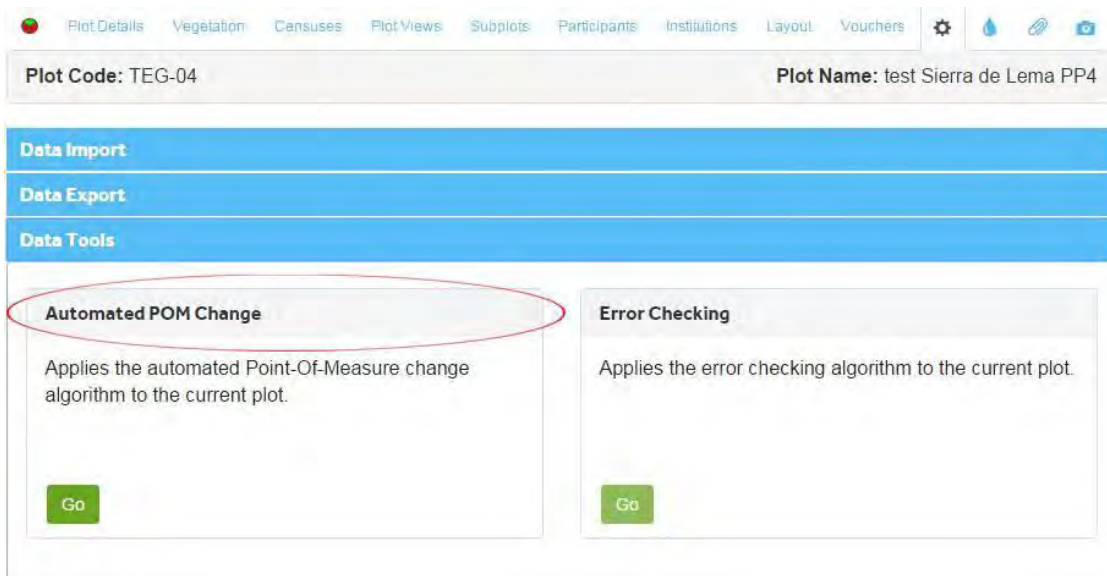
- **DBH1** is different to **DBH2** in the census where the POM change occurs.
- A tree only has one POM change.



## Automated POM change Wizard

From the data tools option screen, click on the **GO** button **Automated POM Change** to open the Automated POM Change Wizard.

On the **Welcome Screen** click on the **Start** button.



The **Change Confirmation** Screen will display a list of trees with unconfirmed POM change standardizations.

Each census will be listed for each tree, stating if a POM change had been made during that census (true or false). Old and New DBH2 and DBH3 will be listed within each census. **Old** displays the diameter as currently recorded in the database. **New** displays the values that will be applied when the standardization is confirmed.

Click the confirm **+** button to confirm each tree individually. All confirmed trees will move to the Confirmed Changes Tab.

Any unconfirmed changes will not be updated. Click **Next** .

## Automated POM Change: Change Confirmation

Unconfirmed Changes (1) Confirmed Changes (0)

Plot Code: TEG-04 Plot Name: test Sierra de Lema PP4

NO. OF ROWS ▾

Tag Number: 2 Full Species Name: Sideroxylon persimile

Census No	Census Date	POM	POM Change	DBH1	Old DBH2	New DBH2	Old DBH3	New DBH3
1	2010.666	0	False	100	100	100	100	93
2	2011.000	0	True	102	110	110	110	102

1

NEXT

Once all confirmed changes have been made, the **Update Completed** screen will be displayed. Click **Finish** to return to the **Data Tools** screen.

## Automated POM Change: Update Completed

Plot Code: TEG-04 Plot Name: test Sierra de Lema PP4

All records successfully updated

FINISH

## 5.16.2 Quality Control Wizard

Note: First of all, ensure you have run the POM change wizard.

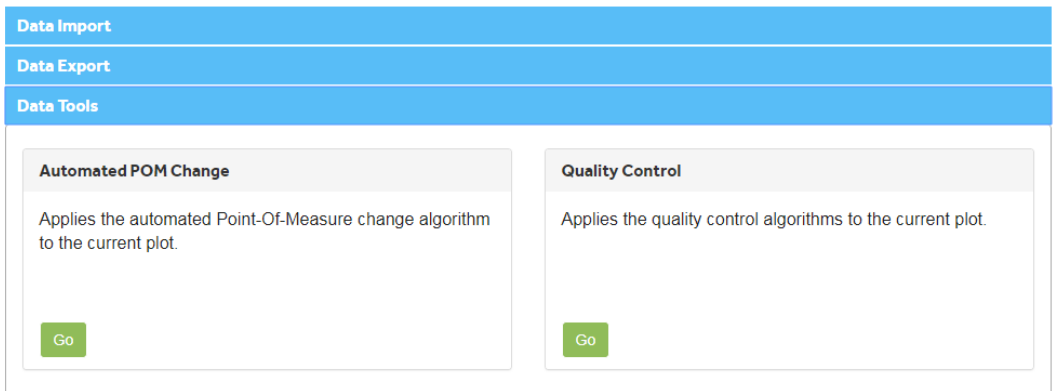
The **Quality Control Wizard** checks for :

- internal consistency in the number of individuals between censuses.:
- high growth rates between two consecutive censuses,
- decreases in diameter between two consecutive censuses,
- back to life trees,
- POM change inconsistencies.

High growth rates and diameter decreases are evaluated using **DBH1** if the tree doesn't have a POM change. For trees with POM change high growth rates and diameter decreases as checked using **DBH2** and **DBH3** .

## Quality Control Wizard

From the data tools option section, click on the **Quality Control Go** button to start the Quality Control Wizard.



The **Parameter Definition** screen will display the default parameters for the checking trees with high growth rates (High Growth Rate, Per Year) and decreases in diameter (Low Growth Amount, Per Census). The default values are 40 mm yr<sup>-1</sup> for high growth and -5 mm (absolute value over whole interval) for negative growth. These threshold values should be defined depending on the dynamism and environment of the plot and the interval between censuses.

If you want to use different parameters, enter the new parameters into the text boxes. Click **Next**.

If you want to use the default parameters Click **Next**.

### Quality Control: Parameter Definition

Plot Code: TAL-06
Plot Name: Plot For Testing Biomasa Package

**High Growth Rate (Per Year)**

**Low Growth Amount (Per Census)**

The Wizard will then perform an **Internal Consistency Check** between the individuals of the plot:

trees in the current census = trees in previous census + recruits – dead.  
 If there are no unusual values, the wizard will display the " Quality Control: No Unusual Values " screen.

## Quality Control: No Unusual Values

Plot Code: TAL-03

Plot Name: demo plot1

No unusual values found in the current plot

If there are missing or extra trees the Quality Control wizard will display the **Quality Control** Screen. If there are no Internal Consistencies the wizard will not display this screen. In the example below the Plot TAL-06 has 2 missing trees in Census 2 and 7 extra trees in Census 3. For more information go to the [Missing Trees](#)(See 5.16.2.3) and [Extra Trees](#) sections.

## Quality Control: Census Checks

Plot Code: TAL-06

Plot Name: Plot For Testing Biomasa Package

Census No	Census Date	Records	Alive Trees	New Recruits	Dead Trees	
1	1994.200	551	551	0	0	
2	1997.471	568	493	19	75	2 Trees Missing
3	2001.449	546	502	46	44	7 Extra Tree Records

1

BACK

NEXT

[If there are no Internal Consistency problems, but there are trees with other issues the wizard will display the Quality Control: Tree Checks](#) Screen. The Quality Control: Tree Checks screen lists all trees found with an unusual value in one or more censuses.

### Quality Control: Tree Checks

Plot Code: TAL-06 Plot Name: Plot For Testing Biomasa Package

NO. OF ROWS ▾

Tag No	Family Name	Species Name	Census Count		
9646	Malvaceae	Pseudobombax marginatum	3	Has Unusual Values	
10021	Malvaceae	Pseudobombax marginatum	3	Has Unusual Values	
10028	Malvaceae	Pseudobombax longiflorum	3	Has Unusual Values	
10025	Malvaceae	Pseudobombax longiflorum	3	Has Unusual Values	
10048	Malvaceae	Luehea candicans	3	Has Unusual Values	
9783	Malvaceae	Sterculia apetala	3	Has Unusual Values	

Click Edit to view and correct each unusual value individually. Or click Save to Excel (recommended) at the bottom right hand side of the screen to download all trees with unusual values to an excel file which you can then save to your computer. After Editing or Saving the Excel file click Next . The Save to Excel Button is at the bottom of the page so you might need to scroll down.


289	Indet	Indet indet	0	No Census Records
255	Indet	Indet indet	0	No Census Records
277	Arecaceae	Oenocarpus bataua	7	Has Errors
231	Annonaceae	Diclinanona tessmannii	0	No Census Records
301	Oleaceae	Cathadra acuminata	0	No Census Records
45	Arecaceae	Oenocarpus bataua	0	No Census Records
233	Sapotaceae	Chrysophyllum sanguinolentum	0	No Census Records

« 1 2 3 4 5 6 7 8 9 »

The plot Quality Control: Tree Checks Excel file includes all census measurements of problematic trees. Unusual values are highlighted in different colours and categorized as:

- High Growth Rate: highlighted in pink; Trees with growth rate  $\geq 40$  mm yr<sup>-1</sup> (default parameter),
- Low Growth Rate: highlighted in blue; Trees with a decrease in diameter of -5 mm between 2 census (default parameter),




- Back to Life: highlighted in green ; Trees that were previously coded as dead (usually because they couldn't be found) but were found, alive, and measured in the current census.
- POM Change: highlighted in yellow; Trees with POM change problems. Tree coded as POM change but dbh1= dbh2 or dbh1 is different from dbh2 and/or dbh3 but no POM change was ever recorded.

If you clicked on the Edit link, the wizard will display the census information for that tree and indicate in which census the unusual value was detected. In the example below tree 1 has a decrease in diameter in Census 2. If you want to edit and review the information at this stage click on the edit  icon and update the relevant information. For more information on Editing census information go to the [Edit Tree](#) (See 5.3.4) section.

### Quality Control: Edit Tree Census Data

<b>Plot Code:</b> TAL-06	<b>Plot Name:</b> Plot For Testing Biomasa Package
<b>Tree ID:</b> 27025 <b>Tag No:</b> 9875	<b>Species:</b> Boraginaceae Cordia alliodora

NO. OF ROWS ▾

<p><b>Census No:</b> 1  <b>Census Date:</b> 1994.200  <b>DBH1:</b> 320 <b>DPOM t-1:</b> <b>DBH2:</b> 320 <b>DBH3:</b> 320 <b>POM:</b> 0 <b>POM Change:</b> False  <b>Alive:</b> Normal  <b>Measurement Technique:</b> 5  <b>Data Manipulation:</b> 0  <span style="background-color: #28a745; color: white; padding: 2px 5px; font-weight: bold;">No Unusual Values</span></p>	
<p><b>Census No:</b> 2  <b>Census Date:</b> 1997.471  <b>DBH1:</b> 314 <b>DPOM t-1:</b> <b>DBH2:</b> 314 <b>DBH3:</b> 314 <b>POM:</b> 0 <b>POM Change:</b> False  <b>Alive:</b> Normal  <b>Measurement Technique:</b> 5  <b>Data Manipulation:</b> 0  <span style="background-color: #dc3545; color: white; padding: 2px 5px; font-weight: bold;">Low Growth Rate for DBH1</span></p>	
<p><b>Census No:</b> 3  <b>Census Date:</b> 2001.449  <b>DBH1:</b> 328 <b>DPOM t-1:</b> <b>DBH2:</b> 328 <b>DBH3:</b> 328 <b>POM:</b> 0 <b>POM Change:</b> False  <b>Alive:</b> Normal  <b>Measurement Technique:</b> 5  <b>Data Manipulation:</b> 0  <span style="background-color: #28a745; color: white; padding: 2px 5px; font-weight: bold;">No Unusual Values</span></p>	

1

NEXT

The Update Completed Screen will be displayed at the end of the Quality Control Wizard. Click Finish to return to the Data Tools screen.

## Quality Control: Update Completed

Plot Code: TAL-06

Plot Name: Plot For Testing Biomasa Package

All records successfully updated

AUTOMATED POM CHANGE

FINISH

### 5.16.2.1 Before Correcting

Before doing any corrections discuss the unusual values with the PI(s) and/or field leader of the current census. They should be able to revise their notebooks and field sheets and check for typos. They can also provide specialist information on species ecology and any issues related to the field campaign that might affect the data quality.

We recommend only applying corrections to the [Plot Dump](#) (See 5.15.1) or the Quality Control file produced by the [Quality Control Wizard](#) (See 5.16.2).

The table below summarizes the approach for applying the different Post-Field Data Management (Flag 4 Codes). Post-field corrections are necessary when: a) high growth and or decreases in diameter do not fit with the tree growth sequence, b) diameter measurements were missed, c) trees previously marked as dead are found to be alive in the current census and e) POM change occurred and it was not possible to measure diameter at the previous POM. For more detailed information go to the [Unusual Values](#) (See 5.16.2.4) section.

FLAG 4: POST-FIELD DATA MANAGEMENT	How to apply
0= No retrospective modification	<p>After revision of the diameter highlighted it is concluded that the increase or decrease observed is correct.</p> <p>Leave Flag 4 as uploaded. Add to the tree Census Notes comments on the revision process.</p>
1= Extrapolated from previous measurements forwards or later measurement backwards	<p>Use diameter growth sequence before diameter issue, when diameter issue occurs in last census.</p> <p>Use diameter growth sequence after diameter issue, when diameter issue occurs in first census.</p> <p>Decision on how long to compute growth rates is based on assessment of growth trajectory and census quality</p>



	(e.g. if census x has disproportionate flagged possible errors this suggest data quality issue).
2= Corrected expected typographical error	If after revision of diameter highlighted, a typographic error is likely, for example a switch of digits.
3= Interpolated (two good measurements either side of a problem measurement)	When diameter issue is identified between two "good " measurements.
4= Estimated using plot-level growth rates by size class	Use when there is not enough tree-level information to estimate the diameter with an issue.
6=The POM was changed.	POM changes should be noted in the field. However, if the field team didn't record this information a POM change may be assumed where there is a decrease in diameter and the tree clearly has two disjointed growth sequences. In this case, D2 needs to be estimated using the information available. Enter in F4, '6' followed by the post-field data management code. For example if a tree has a POM change and D2 was extrapolated then F4= '61'
7= Zero growth rate assumed	Use when there is not enough information to estimate the diameter with an issue. Note for the field team to check at next census.
8= Another transformation, see notes/ not clear what was done	This code should only be applied when revising historical data.

Note: Application of post-field data management cannot be fully automated. It requires thought. Think about the quality of the field notes available, any data quality concerns, and based on this decide which data are reliable. The final implementation of quality control protocols is the responsibility of the researcher signing off the census.

The suggested order in which different post-field data management strategies should be used after revision of field sheets is the following:

1. Check if field notes explain the flagged issue, e.g. diameter has been confirmed or explained by trunk status.

- If acceptable then F4= 0 and 'Census Notes' ='Diameter decrease/ increase accepted'
- If diameter is problematic then go to 2.

2. Check for likely typographical error, e.g. misplaced decimal points or switched digits.

- If typo likely then F4= 2,
- If diameter flagged is probably not a typo then go to 3

3. Check tree growth sequence and when issue occurs

- if issue in last census, and previous growth sequence is good, extrapolate, then F4=1 .
- if issue in first census and growth sequence after issue is good, then extrapolate backwards, F4=1 .
- if the tree does not have enough records to extrapolate then apply average growth rate by size class. F4=4.
- if issue in intermediate census then go to 4

4. Visually inspect the impact of removing diameter with issue

- if growth sequence good without diameter with issue, interpolate using the good measurements, then F4=3
- if growth sequence is strongly disjointed without diameter with issue check if this is due to POM change, if POM change probable estimate D2 using methods in section 3 above.
- if insufficient information to decide on correct diameter, then assume zero growth rate and clearly note for the field team to check at next census, F4=7.

## 5.16.2.2 Extra Trees

If the internal consistency check indicates that there are **Extra trees** this might be due to: dead trees entered as dead in two consecutive censuses, trees previously coded as dead that were found alive in the latest census, trees with missing census information. Extra trees can be found using the [Plot Dump](#) (See 5.15.1) and filtering the information.

---

To correct **Trees recorded as Dead in two consecutive censuses** go to the [Tree List](#) (See 5.3) of the plot, select the problematic tree and delete (See 5.3.5) the problematic census (in which the tree was recorded as dead for the second time).

---

**Back to life trees** are trees that are recorded as alive in the current census but were reported as dead in previous censuses. Do update/correct the information of these trees :

- Check the notes for extra information.
- If the diameter in the current census follows the growth sequence of that tree, then interpolate DBH1 for the previous census. Also change Flag 1

- to 'a', Flag 2 to '0' and Flag 4 to '1' or '3'. See the [Edit Tree](#) (See 5.3.4) section for more information.
- If the diameter in the current census doesn't follow the growth sequence, then assume it is a resprout (check if the species is the same). Do not interpolate resprouts but add them as a recruit (e.g the resprout of tree tag 25 would be 25.1). Add a census note saying that it is a resprout of a tree that died in the previous census. See the [Add tree](#)(See 5.3.3) section for more information.

---

**Trees with Missing information** are not recruits but trees for which there is a gap in the census data (i.e a tree that was recorded as alive in census 1, no information was uploaded for census 2 and in census 3 information is uploaded).

- If previous census data exists (eg in old field sheets), add the census information. As Census information is added in chronological order you will have to [delete](#)(See 5.3.5) the last census(es) and then [add](#)(See 5.3.4.4) the missing census information. Repeat the last step until all tree censuses have been added.
- If previous census data does not exist, interpolate or use median/mean growth rates of the plot to calculate their DBH0-DBH4. Also update Flag 4 accordingly . The procedure to add missing census information is described above.

### 5.16.2.3 Missing Trees

The internal consistency check indicates that there are **Missing trees** when a tree recorded as alive in the previous census has no information uploaded in the current census. If trees are missing, first look them up in all censuses available in the plot dump. Secondly, look them up in the Original Data and in the manually written field sheets for possibly missed information on the current census.

If the tree was recorded in the previous census but there is no information for the current census, assume the tree is dead (but first check with PI). Add a comment to the Census Notes indicating that no information was recorded for the tree and add the missing census information (with the tree coded as dead missing). See the [Edit Tree](#) (See 5.3.4) section for more information.

If the tree was recorded in the previous census and there is information for the current census, add the tree census data .See the [Edit Tree](#) (See 5.3.4) section for more information.

### 5.16.2.4 Unusual Values

This section describes what to do to revise and correct unusual values highlighted in the Quality Control Dump:

- back to life trees (highlighted in green),
- POM change inconsistencies (highlighted in yellow)
- decreases in diameter between two consecutive censuses (highlighted in blue),
- high growth rates between two consecutive censuses (highlighted in pink),

After internal consistency check, the Quality Control wizard generates an Quality Control dump file which can be downloaded in excel. The Quality Control dump highlights trees with the following problems: (1) back to life (highlighted in green in excel), (2) POM change issues, (3) negative growth rate and (4) high growth rate.

Corrections should be made in the plot dump. You need to update DBH1 to DBH3. Remember to record method of any post-field data management in Flag 4 and census notes.

You can use the Plot Dump or the Quality Control Dump to correct errors and upload the corrections using the Upload Multi-Census Data Wizard.

---

### **Back to life trees (highlighted in green)**

Back to life trees are trees that are recorded as alive in the current census but were reported as dead in previous censuses. Check the notes for extra information on the tree status.

If the diameter in the current census follows the growth sequence of that tree, then **interpolate or extrapolate DBH1** . Also **change Flag 1 to 'a' , Flag 2 to '0' , Flag 4 to '1' or '3'**.

If the diameter in the current census doesn't follow the growth sequence, then assume it is a resprout (check if the species is the same). Do not interpolate for resprouts but enter them as a recruit (e.g the resprout of tree tag 25 would be 25.1). Add a note to census notes that it is a resprout of a tree that died in the previous census (add tag nr).

---

### **POM change issues (highlighted in yellow)**

POM change issues are highlighted when:

- DBH1= DBH2 but Flag 4 indicates there has been a POM change
- DBH1<> DBH2 and Flag 4 indicates that there hasn't been a POM change.

If DBH1=DBH2 but Flag4= 60, first check if this is a typo of Flag4 (should be '0' if POM didn't change). Secondly, check if this is a typo of DBH2. Finally, if no typo's occurred, the POM was really changed and DBH1 is really equal to DBH2, then assume the tree has a cylindrical habit and make a note in census notes (genuine POM change).

If DBH1<> DBH2 but Flag4= 0, check if this is a typo (Flag4 or DBH2).

If a POM change can be confirmed but DBH2 wasn't recorded, extrapolate DBH2 using the growth sequence of the tree before the POM change. Then write Flag4= 61 . Run the [Automated POM change](#) (See 5.16.1) wizard to standardize DBH2 and DBH3.

---

### **Negative growth (highlighted in blue)**

Reductions in diameter will appear in blue in the Quality Control dump if a tree diameter diminished significantly (>threshold) in size as compared to the diameter of the previous census.

Before applying any corrections look for a reasonable reason for the negative growth:

- Check if there are typo's in the current or the previous census. If this is the case, correct.
- Try to sort out species-related explanations. For instance, palms regularly show a decrease in diameter between censuses, which shouldn't be corrected.
- Alternatively, try to find an explanation within the tree data of the current or previous census. Trees might show a decrease in diameter if they died and resprouted, if their barks are peeling, if they are rotten or damaged or if they are unhealthy or near to death (check Flag1, Flag2, census notes). In this case, only correct if the tree is very large and significantly affects plot biomass. Make a note in census notes for small trees, indicating the presumed reason for negative growth rate. In case of a resprout, the tree should be entered as a [new recruit](#) (See 5.3.3) .
- If the current diameter is out of sequence, look at the POM. Decreases in diameter can be due to a POM change. If this is the case, extrapolate current DBH2 and code as POM change.
- If a decrease in diameter occurs half-way in a long sequence of recensuses, check for possible POM change before correcting. Look at the growth sequence and visually identify if there seem to be two growth sequences, associated with the reduction in diameter. If you think this is the case, interpolate DBH2 for the census where the decrease in diameter is reported and code as POM change. Change Flag 4 to '62'.
- Check for any post-field data management /estimation in older censuses which may explain discrepancies. In this case interpolate previous DBH1 between 2 good measurements or return previously manipulated data to DBH0.
- If none of the cases above apply, you should trust your own data and presume that the new census measurement is correct. As such, you presume that errors occurred in the previous census. In this case, you need to alter the previous census using the information available for that tree as much as possible, i.e. look at the growth sequence of that tree and interpolate previous DBH1 between 2 good measurements.
- In cases where extrapolation or interpolation of unmanipulated data for a tree isn't possible (e.g. in case of a second census), use the mean or median growth rate for that size class within the plot:

Mean growth rates should be used for Amazon plots. Mean growth rates per size class can be looked up using the 'Growth rates for correction' query. They are calculated excluding trees showing negative growth rate, estimated trees, trees with POM changes and dead trees.

Median growth rates should be used for African plots. Median growth rates per size class cannot be looked up using a query. They should be calculated manually, excluding trees showing negative growth rate, estimated trees, trees with POM changes and dead trees.

If the sample size within a plot is too small (<10 trees per size class), estimate mean/median growth rates per species in that size class in that cluster on the same soil type and of the same forest type.

---

### **High growth (highlighted in pink)**

High growth will appear in pink in the Quality Control dump if a tree diameter increased significantly more than the threshold size as compared to the diameter of the previous census.

Before applying any corrections look for a reasonable reason for the extreme high growth:

- Check against original data for typing errors.
- Try to find out from literature or databases if it is a fast growing species . Note that Palms should not be corrected.
- If multiple census information is available, check the growth sequence of the tree. If the current diameter is out of sequence extrapolate using previous census information.
- If multiple census information is available, check the growth sequence of the tree. If the current diameter is in sequence you might need to interpolate previous census information.
- If only two censuses are available, presume that the current census has the correct data. Back extrapolate using mean or median growth rates (see Negative growth section for more information on how to extrapolate/interpolate).

---

### **Ghost recruits**


Recruits with a "large diameter" can be considered Ghost recruits . They are not highlighted in the Quality Control dump, but they are similar to high growth rates and need attention.

Before applying any corrections look for a reasonable reason for the ghost recruits:

- Check the original data of this census and the previous census for typo's or data entry errors.
- Check if there has been a change in protocol. If the minimum diameter for the previous census was higher than for the current census, recruits can be large.
- If it is almost certain that the ghost recruit was missed during the previous census, you need to back calculate and [add a census](#) (See 5.3.4.4) . Back calculation can be done using the growth sequence of the tree (if multiple censuses are available) or using the mean growth rate of that size class of the plot.

## 5.17 Plot Status

After a plot or a new census has been uploaded, the data needs to be checked thoroughly. Checks are grouped in three categories: [metadata checks](#) (See 5.17.1) [tree checks](#) (See 5.17.2) and [query checks](#) (See 5.17.3) . The chapters below explain each check in detail. After a check has been done, the [plot status](#) for this particular check can be updated (= 'Signing off' a plot status).

The database has a 3 section plot status icon to indicate if a Plot has been checked. The plot status icon is displayed in red  after the first upload. Each section changes to green after the Plot status type is updated.

The icon will be completely green after the three different checks are completed and the checks are recorded using the [Plot Status](#) functionality. A plot will only be considered ready to use when the Plot Status icon is in green. After a new census upload the Plot Status Icon changes to yellow. We recommend performing all the checks again (including the metadata check).

### Plot Status Update

To update the plot status click on the **Plot Status** Icon.

Plot Code	Plot Name	Country	Continent	
TAM-01	Tambopata plot zero	PERU	South America	    <a href="#">View Plot Status</a>

The Plot Status List will be displayed. In the example below the plot does not have any Plot Status Information. To Add a New Plot Status click on the Add Plot Status Button.



**View Plot** ADD PLOT STATUS

Plot Details Vegetation Censuses Plot Views Subplots Participants Institutions Layout Vouchers

Plot Code: TEG-21 Plot Name: Test Plot 2

NO. OF ROWS ▾

In the Add Plot Status screen select from the Drop Down Box the Plot Status type you want to confirm. Then Add comments relevant to the Plot Check associated to the Plot Status. Click Save once all the relevant information has been entered.

**Add Plot Status** SAVE Cancel

Plot Code: TEG-21 Plot Name: Test Plot 2

User	Date / Time
System Administrator	09/06/2015 12:20:00

**Plot Status Type**

Plot Metadata Completed ▾

Plot Metadata Completed  
Query Checks Completed  
Tree Checks Completed

The Plot status will be displayed in the Plot Status List Screen. This screen displays after what census was the Status updated, who confirmed the information, the date of confirmation the **Status Type** updated.

The database records the Plot Status type, date/time and the name of the person who updated the Plot Status.

## 5.17.1 Metadata Checks

After the upload is finished, the **plot** and **census** metadata should be checked. Plot metadata should have been added as much as possible during the first census upload. However, you should also check it after each new recensus upload. Below are the requirements to sign off the metadata checks.

### Plot Metadata

In the [Plot Details](#) (See 5.2) section, check and edit each individual section.

#### M1 Geographical

- Enter the plot name.
- Enter the Biogeographical region, the Cluster, the Ecoregion, the Allometric region and the Country in which the plot is located from the drop-down lists.
- Specify the plot location within the country by adding text in the 'Plot Area Location' and 'State/County/Province' boxes.
- Enter Latitude and Longitude, in decimal degrees, of the centre point of the plot if known. If not add any location within the plot
- Coordinates should be plotted on Google Maps/Earth to check if the plot is in the correct place.
- Enter the Altitude as the mean of the 4 corner posts. If not measured, estimate altitude. Add where altitude estimate originated in the plot census notes.
- Specify location source from the drop-down lists.

#### M2 Forest Type

- Specify Forest Moisture, Elevation, Edaphic Type, Composition, Substrate Geology and Forest Status from the drop-down lists.
- Especially Forest Moisture and Forest Status should be recorded as they provide important information for certain types of analyses.

### M3 Forest Inventory

- Enter the Plot Area, Minimum and Maximum Dimension and the Total Plot Edge. The Plot Area is needed for biomass and turnover calculations on a per hectare basis.
- Select the plot Area Type and Average Plot Slope from the drop-down lists.
- Enter the Minimum tree diameter measured.
- Specify how far the Nearest Anthropogenic Edge is located.
- Enter the total area of the old-growth forest fragment (ha) in which the plot is located at the time of the first census (max value = 1,000,000 ha).
- Specify Plot Shape from the drop-down boxes.
- Tick the Is Single box to indicate if the plot is single and continuous.

### M4 Soil Metadata

- Specify the soil metadata information from the drop-down lists.

### M5 Admin

- The 'Is Open Access' box should be unchecked. If you would like to make your plot data public please email [admin@forestplots.net](mailto:admin@forestplots.net).
- Tick the 'is confirmed' box if you want other users you share data with to view and download data.
- Tick the 'is metadata public' box if the metadata should be publicly available.
- Tick the 'include in global taxonomy management' box if the plot taxonomic information can be viewed and updated by users with Taxonomy Manager rights. For more information visit the [Taxonomy Management section](#)(See 6.).
- Select a Leeds contact.
- Please write in the 'Plot Comments' section other relevant information that you think is not captured in the different Plot Details sections (i.e. difficulty in locating the plot).

## Census and Participants information

To check Census and Participants information go to the [Censuses](#)(See 5.4) tab.

### M6 Plot Census Information

- Check if the plot census dates are correct (Census Start and End Date).
- Click the 'is open access' box if the census should be publicly available.
- Click the 'is confirmed' box if the census is ready to be used.
- In the comments box, you should add or edit comments only related to that particular field campaign. Examples are: "many nails and tags are overgrown so consider retagging during next census" or "logging activities affected subplots 20-25 after previous census". Please do not delete comments added by others with edit rights for that Plot.

### M7 Participants

- Check and add participants information in the [Participants](#)(See 5.4.3) tab.
- You must assign at least one Principal Investigator for each census.
- If you do not find a certain participant in the Database, request to add him/her by sending an email to [admin@forestplots.net](mailto:admin@forestplots.net) with the following information: First Name, Last Name, Institution and e-mail.

## Plot measurements and Layout

### M8: Measurements

- To view/add measurements of the plot corners or extra coordinate measurements go to the [Layout](#)(See 5.8) Tab.
- Add a measurement for each subplot corner if available
- Add measurements from different censuses (remember to include the measurement date).

### M9: Layout

- Check the layout after entering or updating GPS coordinates.

## Vouchers

### M10: Vouchers

- If Vouchers were uploaded with the census information, check that the information was correctly uploaded by downloading a Plot Taxon Dump.

## Sign-Off

You can proceed to signing off and [update the Plot Status](#)(See 5.17) '**Plot Metadata Completed**' only if the following minimum information is complete:

- M1: Country, Latitude, Longitude, Altitude
- M2: Forest status
- M3: Plot Area, Minimum diameter
- M5: Is Confirmed.
- M6: Census Dates
- M7: Principal Investigator (PI) of each field campaign

Make sure you reviewed, updated and added missing metadata information. If the plot metadata information is still incomplete after reviewing it, write in the comments that information is missing. If you are sure all these checks have been thoroughly performed updated the [Plot Status](#)(See 5.17) .

## 5.17.2 Tree Checks

The tree **Plot Status** can be updated after checking the following:

**T1:** Run the [Automated POM change](#) (See 5.16.1)and the [Quality Control Assistant](#)(See 5.16.2) .

- Make sure that there are no missing or extra trees between censuses (internal consistency).
- Make sure that all quality controls have been performed. Protocols are described in the [Quality Control Section](#)(See 5.16.2): correct "back to life trees", POM change inconsistencies, negative growth (<threshold), high growth (>threshold), ghost recruits.
- Run the [Automated POM change](#) and the [Quality Control Assistant](#) again until nothing flags up anymore that needs to be looked at.
- In case of doubt, add concerns in census notes and plot notes.

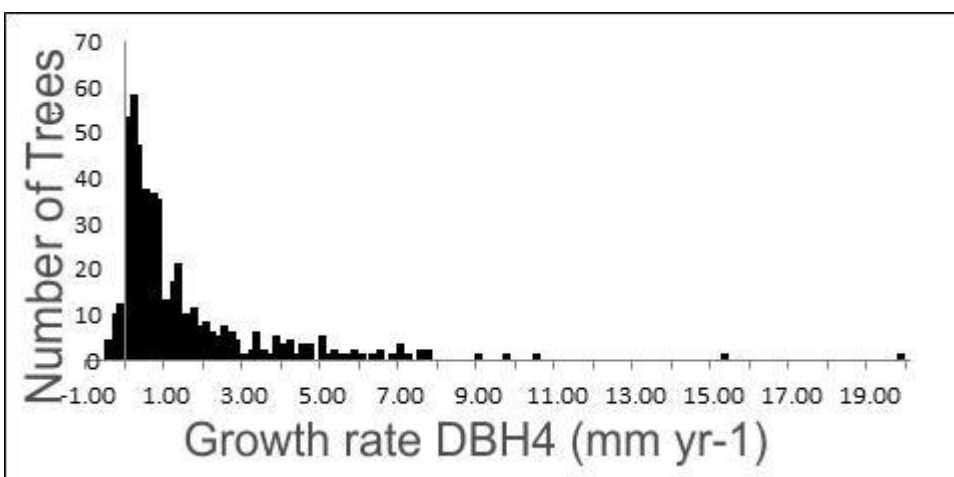
**T2:** Check the 20 largest diameter stems in the most recent census:

- In the Query Library run the query: "T2:20 Largest Trees"
- Check if growth rates are reasonable.
- Check if POM may be located on a buttress (particularly in case of rapidly accelerating growth). If so, apply appropriate [protocols](#)(See 5.16.2.4).
- In case of doubt, add concerns in census notes and plot notes.

**T3:** Check the **distribution of growth rates** for each census using DBH4 (see example figure below):

- In the Query Library run the query: "T3: Individual Growth Rate by Interval"
- This growth diagram should show a very long-tailed, relatively smooth and positively skewed distribution.
- Unusual deviations from the distribution might indicate systematic errors, for example rounding to the nearest cm.
- The peak of the distribution should be  $>0 \text{ mm yr}^{-1}$ .
- In case there are possible anomalies, consider adding concerns in plot notes.

The example below shows a long-tailed, smooth and positively skewed distribution without lumps, with a small amount of negative values and with a peak of  $>0 \text{ mm yr}^{-1}$  .



**T4:** Count the number of trees with **decrease in diameter** in each census interval (using DBH4). Exclude trees that are flagged as shrinking because they

are rotten (F1=g), hollow (F1=f), snapped (F1=k), or show declining productivity (F1=z). Calculate as a percentage of surviving trees.

- In the Query Library run the query: "T4: Trees with Diameter Reduction".
- If the census interval is >10 yr, the proportion of negative growth should approximately be 0%.
- If the census interval is 3-10 yr, the proportion of negative growth is typically >0% and <10% of all surviving stems measured. If not, check for a possible systematic problem with measuring techniques, for example use of bad measure tapes or unclear POM marking. Check for absence or very small proportion of negative growth in the next census.
- If the census interval is <3 yr, the proportion of negative growth can sometimes be >10% of all surviving stems measured.. Check if the census was done in the dry season (which may involve hydrostatic flex).
- Note that possible systematic issues may occur across all plots measured together during the same field campaign. If a possible problem is noted in one plot, check the other plots measured in the same field campaign.
- In case of unexpectedly high or low proportions of negative growth, consider adding concerns in census notes or plot notes.

**T5:** Calculate the **plot level mean individual tree growth (mm yr<sup>-1</sup>)** using DBH4 of all surviving trees and compare with other plots in the cluster.

- In the Query Library run the query: "T5: Mean Growth Rate by Interval".

### Summary for Signing off Tree Checks:

**T1:** Quality control using [Automated POM change](#) and [Quality Control Assistant](#)

**T2:** Check the 20 largest diameter stems

**T3:** Check the distribution of growth rates

**T4:** Calculate percentage of absolute negative growth of <0 to -5 mm

**T5:** Calculate plot level mean individual tree growth (mm yr<sup>-1</sup>)

When all the checks have been thoroughly performed you can proceed to signing off and [update the Plot Status](#)(See 5.17) '**Tree Checks Completed**'.

## 5.17.3 Query Checks

The overall aim of queries is to highlight possible quality issues with the data, that might require further investigation. Plot data not conforming to broad "normal" values may well be robust data. For example consistently low Basal Area is often found in forest growing on extremely nutrient poor soils. Extremely high turnover forests can be found on soils nearby rivers (Check with Simon).

Queries should be performed to check if basal area, above ground biomass, productivity, growth rates and turnover are realistic and internally consistent. Before performing and interpreting queries, do the following:

**Q1** : Read the plot notes and census notes.

**Q2**: Create different [plot views](#)(See 5.6) *if necessary*.

Plot views allow performing queries on plots excluding certain subplots, taxa or censuses. This allows plots to be disaggregated to obtain an homogenous dataset. Apart from the plot views you create, there will always be a 'Main Plot View' including all the data. Plot views maximise data value for analysis. For example if selective logging has impacted one part of a plot, is necessary to assess biomass changes in the undisturbed portion. Creating different plot views may be necessary if:

- there was a change in protocol between censuses (e.g. change in threshold diameter, palm measurement),
- there was disturbance caused by human activity between censuses,
- there are differences between subplots, for example in terms of edaphic type (e.g. swamp, terra firme), soil type (clay, white sand), protocol, disturbance, slope, vegetation.

**Q3**: Define the preferred plot view(s). Ideally, there is only one preferred plot view which includes data of subplots that are undisturbed for the longest amount of time without changes in protocol. There can be two or more preferred plot views if there are differences between subplots that are permanent, for example different edaphic types (e.g. a plot containing portions of swamp and terra firme).

**Q4**: Check the plot area and the preferred plot view area are both correct. Every Plot View requires a plot area.

**Q5**: Check the census dates are correct.

**Q6**: Click the "Refresh Plot Views" button above the Plot View menu before you perform queries.

After these initial checks have been performed, you can start running the queries in the Query Library. Perform queries on the main plot view and on any other preferred plot view.

Perform queries simultaneously for all plots within a cluster. Unusual measurements and possible errors may be more evident when comparing similar plots that are often measured by the same field team and/or during the same field campaign.

To perform a query, go to the [Query Library](#)(See 4.6) .



After performing a query, download the results as an Excel file. Evaluate using the guidelines below.

**Q7: Perform the query ‘Plot basal area by census’.** This gives the plot basal area per census in  $\text{m}^2 \text{ha}^{-1}$ .

- Typical lowland rainforest values vary between 20-40  $\text{m}^2 \text{ha}^{-1}$ .
- Outlier values may be correct but should be investigated.

**Q8: Perform the query ‘AGB (Chave 2005; Wd and Height: Feldpausch 2012)’.** This gives Above Ground Biomass estimates in  $\text{Mg dry mass ha}^{-1}$  based on models presented by Chave et al. (2005) and Feldpausch et al. (2012).

- Typical lowland rainforest values vary between 150-700  $\text{Mg ha}^{-1}$ .
- Outlier values may be correct but should be investigated.

**General guidelines for evaluation of Q7 and Q8:**

- Check that plot area or plot view area are correct.
- Check if circumferences were uploaded instead of diameters.
- Check if diameters are uploaded in cm instead of in mm.
- Check the 20 largest trees.
- Correct if any of the above checks reveals mistakes.
- Compare with other plots, especially within the same cluster or region.

**Q9: Perform the query ‘Stem dynamics by interval’.** This gives the stem dynamics per census interval. It produces an output of (1) alive trees, (2) dead trees and (3) recruits after each census. Note that the query calculates trees per hectare so plots not equal to 1 ha may not sum to a whole number. The census interval is obviously critical. A long interval (e.g. 10 years) will generate more recruits than an average interval (ca 4 years). Therefore, it is best to calculate the number of recruits and dead trees per year (recruits  $\text{ha}^{-1} \text{yr}^{-1}$  and deaths  $\text{ha}^{-1} \text{yr}^{-1}$ ).

- Recruitment between 5 and 15 recruits  $\text{ha}^{-1} \text{yr}^{-1}$  is typical.
- Mortality between 2 and 20 deaths  $\text{ha}^{-1} \text{yr}^{-1}$  is typical
- Other values may be corrected but should be investigated.

**Q10: Perform the query ‘AGWP (Chave 2005; Wd and Height: Feldpausch 2012)’.** This gives Above Ground Woody Production (AGWP) in  $\text{Mg dry mass ha}^{-1} \text{yr}^{-1}$ . It gives three important values per census interval: AGB Gain  $\text{yr}^{-1}$  (= yearly AGB gains or losses from surviving trees); AGB Recruitment  $\text{yr}^{-1}$  (=yearly AGB gains from recruits); AGB Mortality  $\text{yr}^{-1}$  (=yearly AGB losses from dead trees).

- AGB Gain is typically between 3 and 8  $\text{Mg DM ha}^{-1} \text{yr}^{-1}$ . Zero recruits is extremely unlikely except in a annual census.

- AGB Recruitment is typically between 0.1 and 1.5 Mg DM ha<sup>-1</sup> yr<sup>-1</sup>(strongly depends on census length!)
- AGB Mortality is typically between 1 and 10 Mg DM ha<sup>-1</sup> yr<sup>-1</sup>
- Other values may be corrected but should be investigated.

### General guidelines for evaluation of Q9 and Q10:

- Perform an internal consistency check (see also [Quality Control Assistant](#)(See 5.16.2)): trees alive at end of interval = trees alive at start of interval + recruits – dead trees.
- Over the long-term, mortality and recruitment often approximately balance. Short-term imbalances are frequent (e.g., recruitment pulses following a high mortality event).

In case of small or negative ABG gains:

- Check for negative growth rates in the larger diameter classes. In this case, revise for possible errors in the diameters and coding of large trees (see [Quality Control](#)(See 5.16.2) section).
- Check if there are potential cryptic POM changes which haven't been coded and corrected for. Correct if necessary (see [Quality Control](#)(See 5.16.2) section).
- Consider - forests vary (e.g., short intervals, drought at final census).

In case of high AGB gains:

- Check if POM positions of the largest trees are on buttresses. If this is the case, D for these trees should be corrected appropriately (see [Quality Control](#)(See 5.16.2) section).
- Consider reason for high AGB gain- forests vary (e.g., biogeography, h/d allometry, soil nutrients).

In case of small or no recruitment:

- Check if recruits were present on the fieldsheets but not uploaded to the database. If so, upload them and rerun the queries.
- Check if DBH threshold changed between censuses. If so, create a new plot view excluding trees below the new DBH threshold for previous censuses and rerun the queries.
- Check if a following census interval has ghost recruits (see [Quality Control](#)(See 5.16.2) section).
- If none of the above apply, check if recruits were missed in the field.
- Forests vary.

In case of high recruitment:

- Check if strongly outlying recruits have grown faster than the fastest growing small stems in the plot. To do so, you can compare a growth diagram of recruits with a growth diagram of the smallest surviving trees (e.g. DBH class 100-200 mm). This might indicate trees missed in the prior census.

- Check if these outliers are fast growing pioneers or if they are exposed to full sunlight, e.g. when growing in gaps (use census notes, plot notes, maps, CI estimates). If not, they are possible "ghost recruits".
- Forest vary. High recruitment can be a natural response on a past disturbance event. Was there particular high mortality in a recent or current census?
- Correct recruits if there is strong evidence for being ghost recruits (see [Quality Control](#)(See 5.16.2) section). .

In case of small or no mortality:

- Check if dead trees were present on the fieldsheets but incorrectly uploaded to the database as live trees. If so, correct them and rerun the queries.
- Forests vary. Low mortality is especially likely over short census intervals or when recovering from past disturbance or in monodominant forest types. Check for these.

In case of high mortality:

- Check if trees were alive on the fieldsheets but incorrectly uploaded to the database as dead trees (e.g. snapped but alive, F1=k). If so, correct them and rerun the queries.
- Forests vary. High mortality is possible when a plot is disturbed by natural events (flooding or storms) or by anthropogenic disturbance. Check plot notes

### **Summary for Signing off Query checks:**

Q1: Read the general plot notes and census notes.

Q2: Create different plot views if necessary.

Q3: Define the preferred plot view(s).

Q4: Check if the plot area and the preferred plot view area are both correct.

Q5: Check if the census dates are correct.

Q6: Click the "Refresh Plot Views" button.

Q7: Perform the query 'Plot basal area by census'.

Q8: Perform the query 'AGB (Chave 2005; Wd and Height: Feldpausch 2012)'.

Q9: Perform the query 'Stem dynamics by interval '.

Q10: Perform the query 'AGWP (Chave 2005; Wd and Height: Feldpausch 2012)'.

When all the checks have been thoroughly performed you can proceed to signing off and [update the Plot Status](#)(See 5.17) **'Query Checks Completed'**.

## **6. Global Taxonomy Manager**

**This section is under development.**

## **7. Database How to..?**

This section includes detailed descriptions of some topics that need additional information.

### **7.1 Tree not measured in the field**

If a tree was not measured in the field but there the diameter sequence of the tree is available, then the missing information can be extrapolated.

If a large tree was not measured and there is only one census then the mean diameter of the size class can be applied to fill in the gap in information. However, a note should be made to recommend that the field team measures large trees in the next field campaign.

### **7.2 Diameters Definitions**

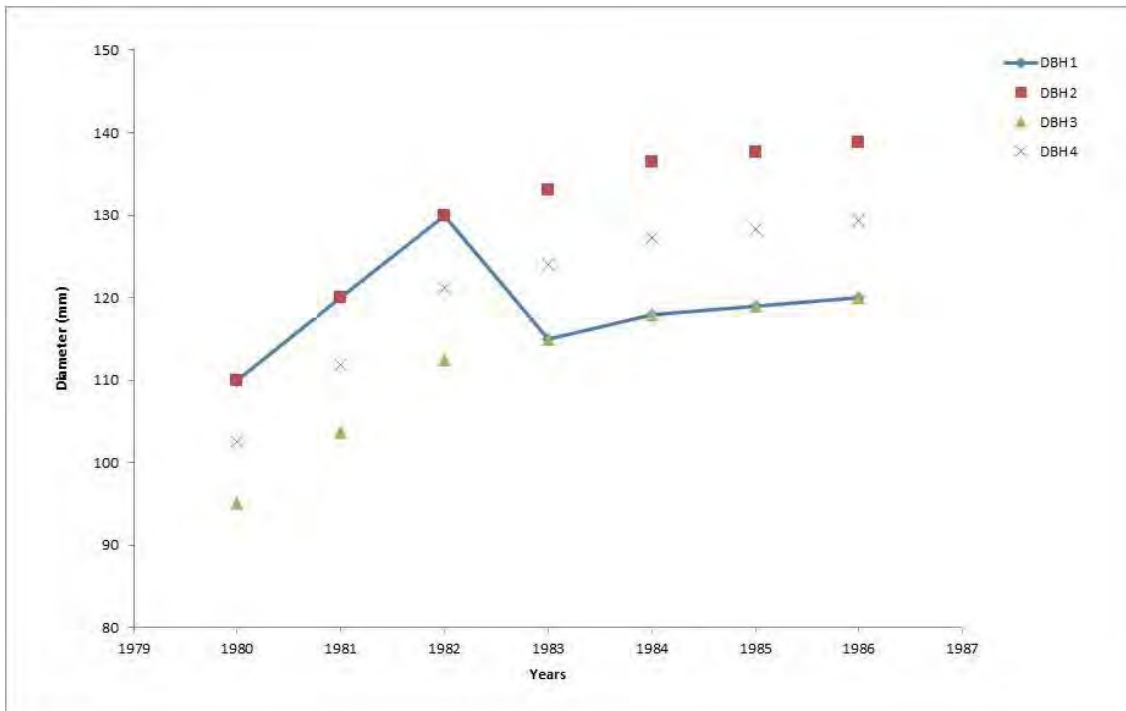
In the Tree List section you will find 4 diameters: DBH0, DBH1, DBH2, DBH3. Whilst in the Plot Dump and Quality Control dump file you will find 5 diameters: DBH0, DBH1, DBH2, DBH3, DBH4. In a given census if a tree doesn't have a POM change and it hasn't had any post-field data management all DBHs are identical.

**DBH0(D0)** is the raw uncorrected diameter, as typed in the original field sheet file. **DBH0(D0)** can not be edited. During the upload to ForestPlots.net D1 values are also stored in D0 for future reference.

---

#### **Diameter estimations for trees where POM change has been recorded.**

If there has been a POM change DBH2 and DBH3 sequences need to be standardized. The details of the standardization protocols are described below. The image below shows the different diameters.



**DBH1(D1)** is the diameter measured at current correct point of measurement (POM) for that field campaign. D1 is the best estimate of diameter at that census.

If a POM change is applied in the field when a problem is anticipated in the future, D1 is still measured at the old POM. In the following field campaign diameter will be measured at the new POM as D1.

**DBH2(D2)** is the diameter measured at the original/old POM. When the diameter needs to be measured at a new POM, the diameter at the old POM is recorded as D2. After a POM change D2 is estimated:

The ratio of  $D2_{pom\_change}/D1_{pom\_change}$  is used to project D2 assuming the same taper as at POM change census, thus  
 $D2 = D1 * (D2_{pom\_change}/D1_{pom\_change})$ .

Before a POM change D1 and D2 are equal.

At the census of the POM change D2 is the measured or estimated diameter at the old POM.

This means:

Before a POM change D1 and D2 are equal

At the census of POM change, D2 is the diameter at the old POM.

After a POM change occurs, only D1 is recorded and D2 is estimated using the formula above.



**DBH3(D3)** is the diameter at the new POM. Before the POM change D3 is estimated.

The ratio (  $D1_{pom\_change}/D2_{pom\_change}$  ), is used to project D3 assuming the same taper as at POM change census, thus

$$D3 = D1 * ( D1_{pom\_change} / D2_{pom\_change} )$$

After a POM change D1 and D3 are equal

At the census of the POM change D3 is at the new POM, therefore  $D3 = D1$ .

This means:

Before a POM change occurs, only D1 is recorded and D3 is estimated using the formula above.

At the census of POM change, D3 is the diameter at the new POM;  $D1 = D3$ .

After a POM change D1 and D3 are equal

---

**DBH4(D4)** is the arithmetic mean of D2 and D3 for trees. This is calculated for all censuses (before, during, and after POM change). D4 is not stored in the database and it is estimated every time there is a Plot Dump/ Quality Control Dump download request.

## 7.3 Ghost Recruits

**This section is under construction.**