

**Iwokrama International Centre
for Rain Forest
Conservation and Development
Pre-Harvest Compilation Procedures**



International Tropical Timber
Organization



Iwokrama International Centre for Rain Forest
Conservation and Development

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ACRONYM

FType	Forest Type
Fblock	Felling Block
r2v	Raster 2 Vector

Pre-Harvest Compilation Procedures

Before the actual compilation, a close look at the field data and topographic sheets is needed. This is to make sure that data is as accurate as possible and the information represented on the topographic sheets is also accurate.

Field Data Validation

A validation process is carried out on every block, to make sure they are no errors and or holes in the data.

Data Collection:

Iwokrama is using “Alegro CX” brand data recorders to collect inventory data. Special programs were developed for the data recorders. Using this method of data collection, makes it easy for us to validate the data right after collection.

Validation Module

To eliminate data errors, a validation module was developed with specific data accuracy checking parameters. The module is used in the field by the inventory supervisor to carry out data validation on the field data every day the enumerator (booker) brings in the data recorder. Once errors are found, it is discussed with the crew leader who next day corrects those errors before data collection commence.

Topographic Sheet Preparation

All topographic sheets are prepared by the inventory supervisor and handed over to the GIS coordinator, who will check and prepare the sheets for digitizing.

The sheet maps are scanned into the computer, and saved as .tff file format where after they are individually opened in the Raster 2 Vector program (r2v as it is known).

To ensure that the digitized data from r2v fall precisely on the map in your GIS project, control points specific to the block map are applied to the topographic sheet while in r2v.

Once all necessary preparation is completed in r2v, the following layers are digitized and exported as GIS shape files;

1. Creeks
2. Swamps
3. Any other feature noted by the inventory supervisor.

GIS Section;

Basic Layers

To explain in detail the process of layer preparation is tedious. In this document, I choose to give a general over view and in some cases step by step instructions on layer preparation.

A list of base layers which make up a complete harvesting stock map.

1. Forest Type
2. Felling Block
3. Buffers 20m of all creeks
4. Creeks
5. Contours
6. Swamps
7. Log Markets
8. Skid and Trailer Trails
 - a. Skid trails are identified as a Single size dashed line
 - b. Trailer trails are identified as a Double size dashed line
9. Grid

Buffers;

Create buffer layers for each block;

1. Buffer 30m for rivers
2. Buffer 20m for creeks
3. Buffer 50m for research plots, otherwise noted.

Felling Blocks;

- a. Felling blocks are extracted from Iwokrama Key Block layer specific to Management Unit.
- b. Create felling block layers with grid alignment and labeling

Net Area

Net Area by Block;

1. Merge buffer layer with fblock layer
2. Excluding the buffer sum from the total block, gives you the net area per block
e.g. (gross - buffer = net area)

Net Area by Ftype;

3. Create buffer by fblock layer – (a)
4. Create ftype by fblock layer – (b)
5. Merge layer (a) with layer (b), only selecting the following fields,[Fblock, Hectares, Buffers (N,Y) and Ftype (MGK and WF)] or Merge all **Buffer by block layers** to form a (net area layer).

After preparation of the GIS layers is complete, you'll need to prepare individual stock maps, including the required layers, based on the information received from the topographic sheets.

Database Module

Species List

It is important to verify you are using the correct species list as noted by forest manager.

Species Verification: While the Pre-Harvest Module is running. Complete the following steps to confirm you are using the correct amount of species.

- a. Open the [look up species table] “lut_sp” and for all the species you want excluded from the compilation, edit the following fields replacing existing data with what’s listed below.
 - i. Price = 0
 - ii. Priority = 99
 - iii. Inv = N
 - iv. Harv = N
 - v. Royalty = 0

Net Areas by Fblock:

The Net Area entails excluding the buffered (area) from the total block (area).

- a. **[dbase] - GIS Table Management** -- Import Net Area layer Polygon Information, into database
- b. Field selection (FBlock, Hectares, Buffers (N, Y), FType).

Net Area by Forest Type -- Select fields (FBlock (e.g. E791-5), FType (1,2 etc), Net Area (ha).

[dbase] - Calculate Volume and X – Y Coordinates

Calculate volume and X-Y coordinate for each tree. This information would be added to the out_tree table in the database module.

[dbase] - GIS Table Management –

Export (Trees and X-Y Coordinates) to a dbf file with an appropriate name.

[gis] - Tree Layer

Import the just exported tree file into your GIS project. Merge that file (1st run) **tree data** with the **net area layer**, to acquire a tree layer with the following fields (Fblock, Buf, Ftype) etc.

[gis] – Export Merged Layer

Export the Merged 1st run (tree file) and net area layer, with a descriptive name.

[dbase] - Import Tree data layer, into database

You can check the **out_tree** table to see changes made to the database.

Tree File Modification

The tree file will be a replica of the **out_tree** table from the database module. Export the tree data, all together or by individual blocks.

[gis] –Assign Data by location

- a. Edit block layer and buffer layer.
- b. Create a Union between block and buffer layer adding the following field/s, [ftype]. This union theme will be used to **assign data by location**.

Create a merge of all edited layers;

- b. **Buffer by block**
- c. **Ftype by block**
- d. This will update the tree data table in the dbase with buffers, ftype, Fblock etc.

Overlay (Assign data by location) this is done in GIS.

[dbase] - GIS Table Management -- Import tree point information

Select fields (FBlock (e.g. E791-5), Tree, Buffer, FType (1,2 etc), etc...to update the database.

[dbase] - Harvest tree selection

Run the Planned Harvest Tree Selection procedure. This will update the **out_tree** table for the final time. With all the necessary proximity rules, etcetera applied to the tree data.

Export the now updated out_tree table which will be your tree data file in your GIS project.

[gis] - Update GIS file (tree point layer)

Display Tree data on Map.

E-N-D