# ECO GUIDE TO
# Importing an Existing Inventory

If you have decided to conduct a **complete inventory**, you will be collecting data for all of the trees located in your study area. Do you have an existing inventory? If so, you now have the option to analyze that inventory by importing the data into Eco following the procedure outlined below.

## Formatting Your Existing Inventory

First, you will need to format your existing inventory. i-Tree Eco's inventory import tool works best with a properly formatted dataset. This means that existing data should be saved as a specific file type and include all of the required variables. Each individual data variable also has its own formatting requirements that must be adhered to.

### What file type is best?

Save your inventory data as one of the following file types:
- Excel spreadsheet (.xls or .xlsx)
- Access database (.mdb or .accdb)
- Comma separated values (.csv)

### What data are required?

i-Tree Eco v6.0 has been modified so that users are now required to collect only two measurements of trees to complete an Eco project. The reduction in required data has been made to accommodate users with existing street tree inventory data, which oftentimes does not include all of the previously required tree measurements.

The following two data variables <u>must</u> be included in your existing inventory:

- **Species:** The species and genus names of each tree assessed.

- **Diameter at breast height (DBH):** The tree stem diameter at breast height (4.5 feet above the ground) for each tree.

> ⚠️ **Caution**
>
> i-Tree Eco requires users to collect two tree measurements. While this approach allows users with limited existing inventories to run the model, it also has substantial limitations. The accuracy of ecosystem service estimates can be improved significantly by providing additional optional tree measurements.
>
> Please read more about these data limitations in the **Eco Guide to Data Limitations**.

For users collecting dead trees, an additional data variable is required for your existing inventory. Users <u>must</u> collect:

- **Crown health:** Tree crown health estimated as condition or dieback (i.e., dead branches) of the crown.

The crown health variable is used to indicate which sampled trees are dead and which are not. Dead trees should be given either a 100% dieback or 0% condition designation depending on which variable you decide to provide. See the Eco **Field Manual** for additional information on collecting crown health and designating dead trees in the field.

Be aware that some additional analyses require certain data to be collected beyond species and DBH. Please refer to the Eco **User's Manual** for more information on the data requirements for supplemental analyses.

## How do I format each data variable?

In addition to the two <u>required</u> data variables (species and DBH), users are allowed to import any or all of the inventory data shown in Table 1. Each individual data variable has its own formatting requirements.

Here are several guidelines to keep in mind:

- **Field names –** Users are <u>not</u> required to edit the field names of their existing data to

match those used by the Eco application; instead, users will be asked to indicate the corresponding Eco field name. (**Note:** Those Eco field names will continue to be used and displayed in the application.)

- **Data limits –** Eco has rules that serve as data integrity checks which require all values to fall within the accepted limits. For data variables where this applies, the limits are included in Table 1. The import function will not work properly if the data do not adhere to the validation rules.

- **Field type –** Eco data variables can often be displayed in several ways. For example, species data can be entered as common name, scientific name, or species code. For data variables where this applies, users will be asked to indicate which field type corresponds to their existing data.

- **Value mapping** – Users are not required to format their field values to match those used by the Eco application. For example, if you have recorded your species data as species codes, these codes do not have to be the same ones that are built into the Eco application. However, they must be mapped to Eco's values. The option to map values is available for all data variables in Table 1. For variables where field values are to be mapped, the data formatting in Table 1 need not be followed. Instead, users will be asked to map the values used in their existing data to those available in Eco. (**Note:** Those Eco values will continue to be used and displayed in the application.)

> **Tip**
>
> Use the Eco **Field Guide** to see how data are collected for Eco. This documentation will help you decide how to match your field names, field types, and values to Eco's.

### Table 1—Data Variables for Complete Inventory Projects

The Data Variables column lists the required and optional data variables that can be imported from an existing inventory. For best results, the data formatting and limits described for each variable should be adhered to unless you choose to map values.

| Data Variables | Data Formatting | Data Limits |
|---|---|---|
| **Required fields** | | |
| Species | Enter as specified in Eco Field Manual | n/a |
| DBH | Enter as number | 0.5 to 500 inch |

| Optional fields | | | |
|---|---|---|---|
| Tree ID | | Enter as number | > 0 without duplication |
| Strata | | Enter as specified in Project Configuration | n/a |
| Crew | | Enter as text | n/a |
| Survey Date | | Enter as date/time | n/a |
| Status | | Enter as specified in Eco Field Manual | n/a |
| Land use | | Enter as specified in Project Configuration | n/a |
| Photo ID | | Enter as text | n/a |
| Latitude | | Enter as GPS coordinate | n/a |
| Longitude | | Enter as GPS coordinate | n/a |
| DBH measurement height | | Enter as number | 0.1 to 6 feet |
| DBH measured | | Enter as Yes (Y) or No (N) | n/a |
| Street tree/non-street tree | | Enter as Yes (Y) for street tree or No (N) for non-street tree | n/a |
| Public/private | | Enter as Yes (Y) for public tree or No (N) for private tree | n/a |
| Total tree height | | Enter as number | 0 to 450 feet |
| Crown size | Height to live top | Enter as number | 0 to 450 feet |
| | Height to crown base | Enter as number | 0 to 450 feet |
| | Crown width | Enter as number | 0 to 300 feet |
| | Percent crown missing | Enter as number | 0 to 100 percent |
| Crown health | | Enter as specified in Project Configuration | n/a |
| Crown light exposure | | Enter as number | -1, 0, 1, 2, 3, 4, or 5 |
| Energy | Direction | Enter as number | 1 to 360 degrees (must be -1 when no building is present) |
| | Distance | Enter as number | 0.1 to 60 feet (must be -1 when no building is present) |
| Maintenance recommended | | Enter as specified in Project Configuration | n/a |
| Maintenance task | | Enter as specified in Project Configuration | n/a |
| Sidewalk conflict | | Enter as specified in Project Configuration | n/a |
| Utility conflict | | Enter as specified in Project Configuration | n/a |
| Pests (IPED) | | Enter as specified in IPED Field Manual | n/a |
| User ID | | Unique tree ID created by user | number, letter, symbol |

> ⚠️ **Caution**
>
> Required fields, species and DBH, must be entered according to the formatting requirements in Table 1 or mapped to Eco's values. Invalid or unmatched values will result in records being skipped.

## Using the Complete Inventory Import Function

Having properly formatted your existing inventory, you will now import your existing data into a new or existing Eco project. To begin, click on your computer's **Start button** > **(All) Programs** > **i-Tree** > **i-Tree Eco v6**.

To create a new project:
1. Click **File** > **New Project**.
2. In the **New Project** window, select "Complete Inventory" from the project type drop-down list in the upper right-hand corner.
3. Click **OK**.
4. In the **Save Project File As** window, browse to the folder where you would like to save your project.
5. Enter a file name in the space provided.
6. Click **Save**.

After you create a new project, you will see that the Eco application automatically opens the **Project Definition** function of the **Project Configuration** tab. Configuring your project is one of the first things that you do when you create an Eco project. This allows you to provide the Eco application with important information, such as what type of project you will be doing, where your study area is located, and what data you will be collecting. For a complete inventory project where you are importing existing data, all of the information that you provide here should apply to your existing dataset.

To configure your project:
1. Click on the **Project Configuration** tab.
2. Click on the **Project Definition** function.
3. Work through the **Project Settings**, **Location**, and **Data Collection Options** tabs from left to right.
4. Close the **Project Definition** function when you are finished by clicking on the **OK** button in the upper right-hand corner to save your settings.
5. Work from left to right through the **Project Configuration** tab to provide additional information for the functions that are relevant to your project.

> **Tip**
>
> While working in Eco, use the on-screen help text in the panel on the left-hand side of the window. This help text will provide step-by-step directions for using each button and function.

> **Tip**
>
> Several of the **Project Configuration** functions allow users to define their own field values. For example, management fields, such as sidewalk and utility conflicts, can be customized so users can define the fields that are relevant to their project goals. Where possible, define the data fields that you will be importing from your existing data.

To import your existing inventory:

1   Click on the **Data** tab.

2   Click on the **Trees** function. (**Note:** The **Import** tool will become available in the ribbon.)

3   Click on the **Import** tool to import your existing tree inventory.

4   In the **Data Import Wizard**, click **Browse**.

    a   Navigate to the file containing your inventory data.
    b   Select the file and click **Open**.

5   Check the box to signify that the first row of your dataset contains the column headers. Otherwise, leave the box unchecked.

6   Confirm that the data that appears in the table is correct and click **Next**.

7   Match your existing data fields to Eco's data fields.

    a   Select an inventory column from the table. The column header will appear in the "Your Source Column" space towards the bottom of the window.

    b   Choose the "Eco Field" from the drop-down list that defines the type of data in your selected column.

c   Check the box indicating whether or not you will need to map your field values to the Eco field values. (**Note:** You will be prompted to complete the value mapping later. See step 9 below.)

d   CONDITIONALLY REQUIRED: As previously described, Eco data variables can often be displayed in several ways. For example, species data can be entered as common name, scientific name, or species code. For data variables where this applies, a "Field Type" drop-down list will appear below "Eco Field." Select the field type that matches your existing data.

e   Repeat steps 7a through 7d until each variable that you would like imported has been matched to the appropriate Eco field.

> ⚡ **Tip**
>
> Try moving from left to right, clicking on each column in turn. This can help ensure that you match all of the necessary columns to an Eco field.

8   Click **Next**.

9   CONDITIONALLY REQUIRED: For data variables where you indicated the need to map field values (in step 7c above), match your field values to Eco's.

a   In the upper table, select a row.

b   In the lower table, choose the "Eco Value" from the drop-down list that matches "Your Value."

c   Move through the lower table until all of your values have been matched to an Eco value.

d   Repeat steps 9a through 9c until all necessary data variables have been mapped.

10  Click **Next**.

11  Review the results of your processed data at the top of the **Data Import Wizard**. This information will tell you how many records from your inventory data will be imported.

12  When you are satisfied with the data that will be imported, click **Finish**. (**Note:** Use the **Back** button to return to previous steps for any adjustments.)

After you have completed importing your existing inventory data, you will be able to make use of the Eco application as described in the **User's Manual**. Use the **Data** tab to view or edit your data, edit benefit prices, or add annual costs; the **Reports** tab to submit your data for processing, retrieve your results, and view the results of your Eco run; the **Forecast** tab to model future scenarios for your urban forest; or the **Support** tab to make use of i-Tree's support materials.