Installation and User's Manual

Version MCTI 3.Palm

The Mobile Community Tree Inventory (MCTI) System
developed cooperatively by:

USDA Forest Service, Northeast Center for Urban & Community Forestry
USDA Forest Service, Urban Natural Resources Institute
Amherst, MA 01003
http://www.umass.edu/urbantree

The City of Springfield, MA Parks and Recreation Department
http://www.springfieldparks.com

BlueJay Software
East Longmeadow, MA
http://www.bluejaydata.com

Manual Revision 12.0
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Background Details

Purpose:
The purpose of the MCTI is to provide cities, towns, and non-profit organizations with a tool to inventory forests. The application is comprised of three modules, paper, desktop, and palm-sized computer. With this information it is hoped that forest stewards will have a clearer view of their forests and will be able to make better-informed decisions for their continued health.

Intended Users:
The MCTI is designed for everyone from a volunteer high school student to a certified arborist.

Getting Started:

Contact local USDA Forest Service liaison
Although the application is public domain and very easy to use, we suggest that all persons interested in using the application contact their USDA liaison so that the liaison can provide you with some helpful tips before you begin. Visit www.fs.fed.us for a list of Forest Service liaison contacts.

Purchase / Gain Access to a Windows® based computer
You will need to have a Pentium II class computer that has at least 32 MB of Ram and 500 MB of hard drive space.

Purchase / Gain Access to a Palm-OS handheld device
There are a number of companies that are producing the hand held devices. There are significant differences on the price and capabilities of these units. Please consult the FAQ section of this manual for tips on purchasing a hand held device.

Acquire installation software
The MCTI software is freeware and can be obtained in a number of ways. You can download it from the website or have a copy mailed to you from your USDA liaison.

Installation Guide - MCTI Desktop Software

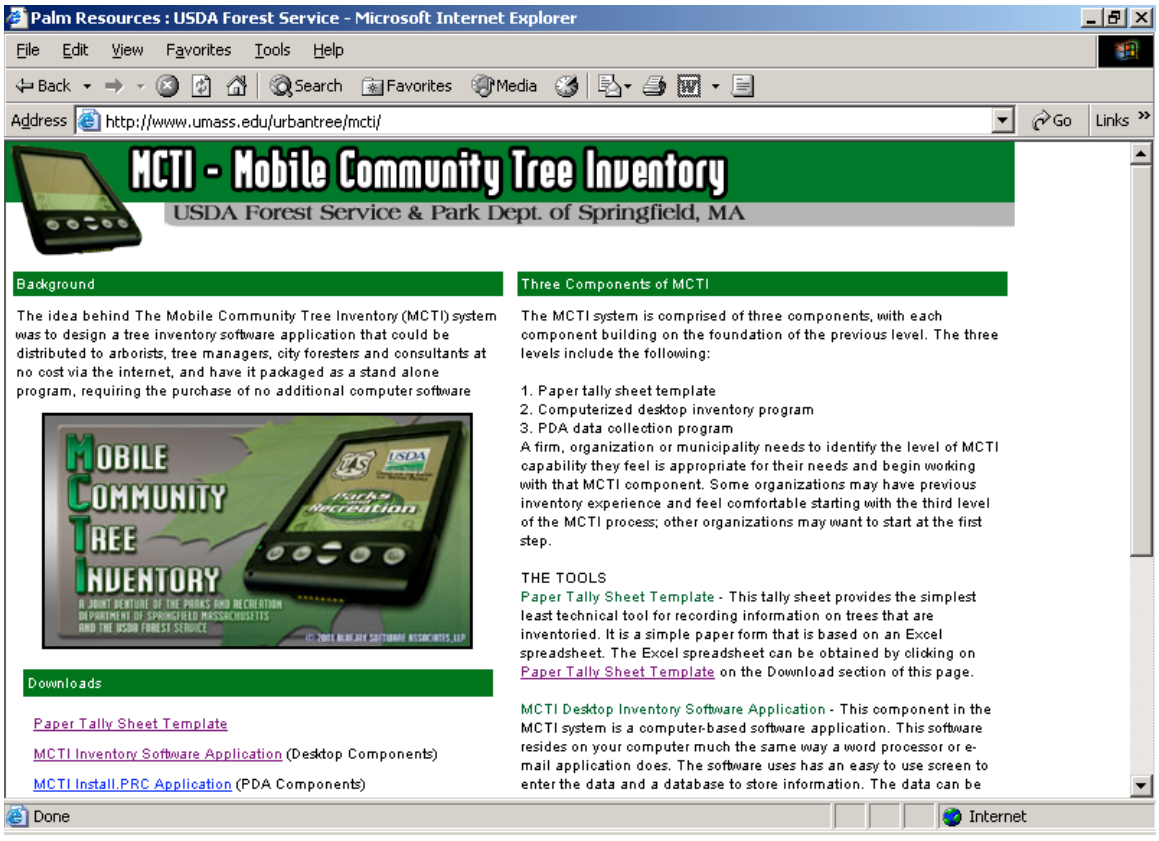
Installing the MCTI Desktop Application

Installation Method One: Installing from a CD

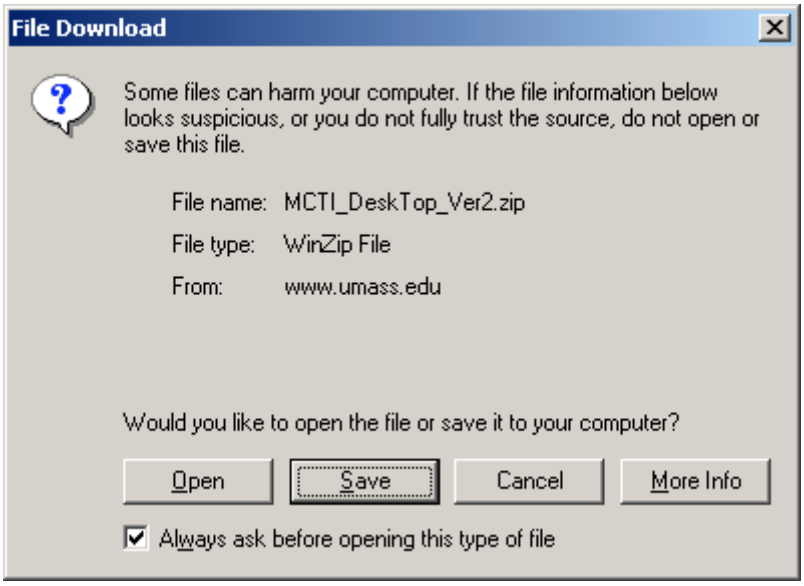
1. Insert the CD into the CD-ROM drive.
2. If the CD does not automatically begin the installation process, double-click on My Computer, double-click the CD drive and then double-click the “Setup” icon.
3. Follow the prompts to complete the installation.

Installation Method Two: Installing from the Internet

1. Use your web browser to navigate to www.umass.edu/urbantree/mcti/



2. Click on the MCTI Inventory Software Application link. In the dialog box that appears click Save.



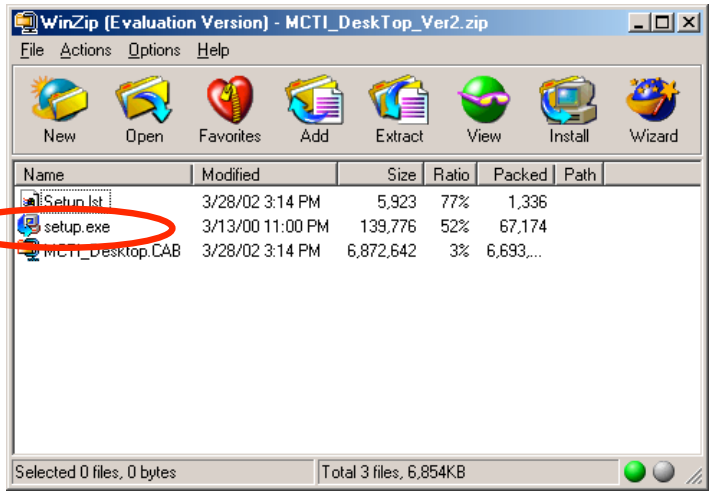
(NOTE: The file name indicated in the dialog box, shown above, may be different on your version of the software, since updates are made regularly to the MCTI software, which requires revision of the name.)

3. Save the file to a location on your hard drive.

4. Find the folder where the files were saved.

5. Double click the MCTI_Desktop.zip icon. If a WinZip window appears, click "Use Evaluation Version". A window will appear containing a list of files.

6. Double click the Setup.exe file. Follow the on-screen instructions to continue the installation of the MCTI Desktop software.



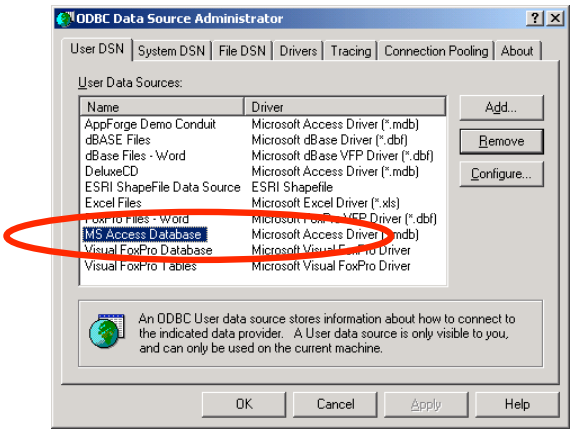
7. The MCTI_Desktop installation will put a file named "**UCRunSetup.Exe**" in the folder where you installed the desktop application. Double-click to run this file. It will install a program that will allow the data on your Palm to be synchronized with data from the desktop application. Follow the instructions on the screen to complete the installation.

8. Set up an ODBC Data Source Name (DSN) for the MCTI database. This is nowhere as scary a process as it sounds. Simply follow the steps indicated here.

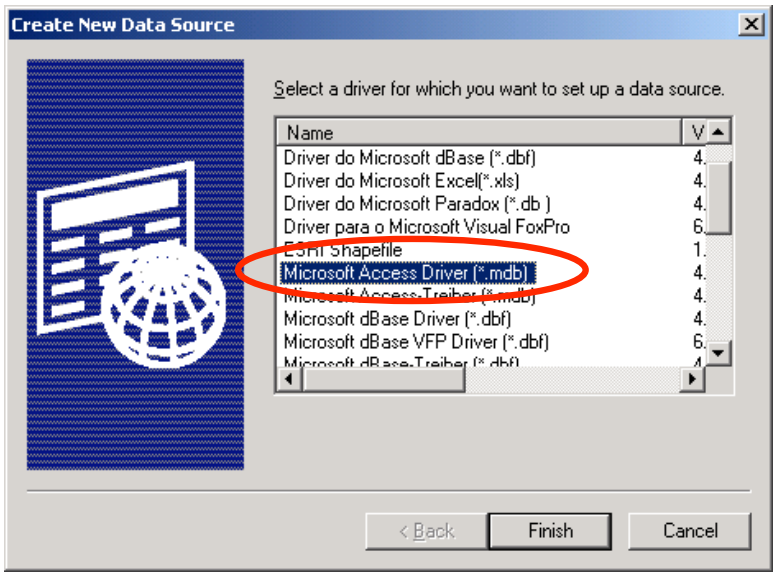
8a. Click the START button on your Windows taskbar and select SETTINGS. Click CONTROL PANEL. Depending on which version of Windows you have, you will see something like this:

NOTE: In Windows 2000, "ODBC Data Sources" is located inside the Administrative Tools folder in the Control Panel

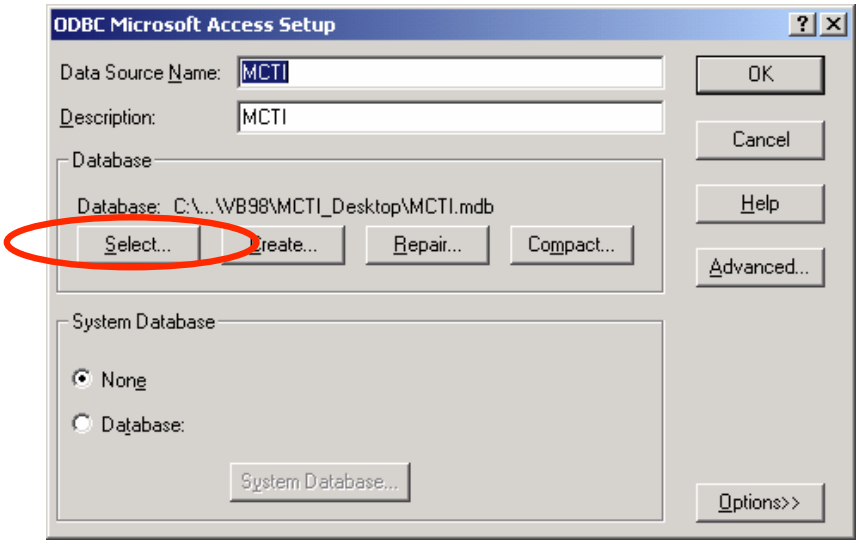
8b. Click "ODBC Data Sources". You will see something that looks like this:

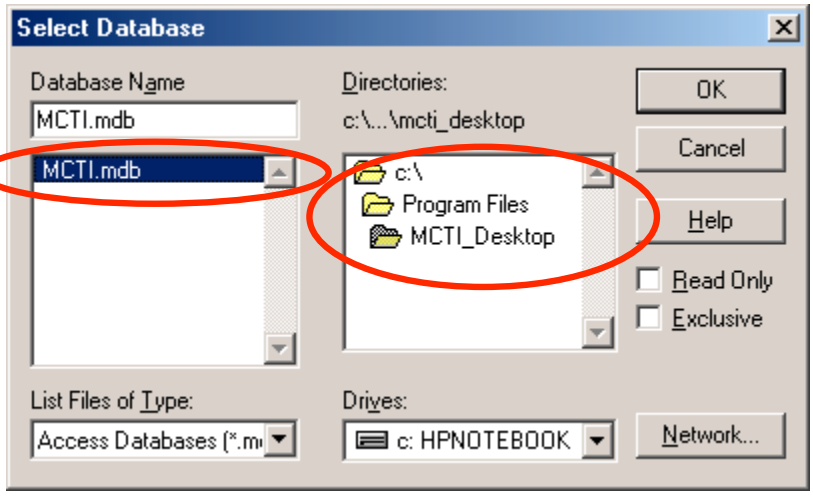


8c. Under the User DSN tab, click ADD and select "Microsoft Access Driver (*.mdb)" Then click **FINISH**.



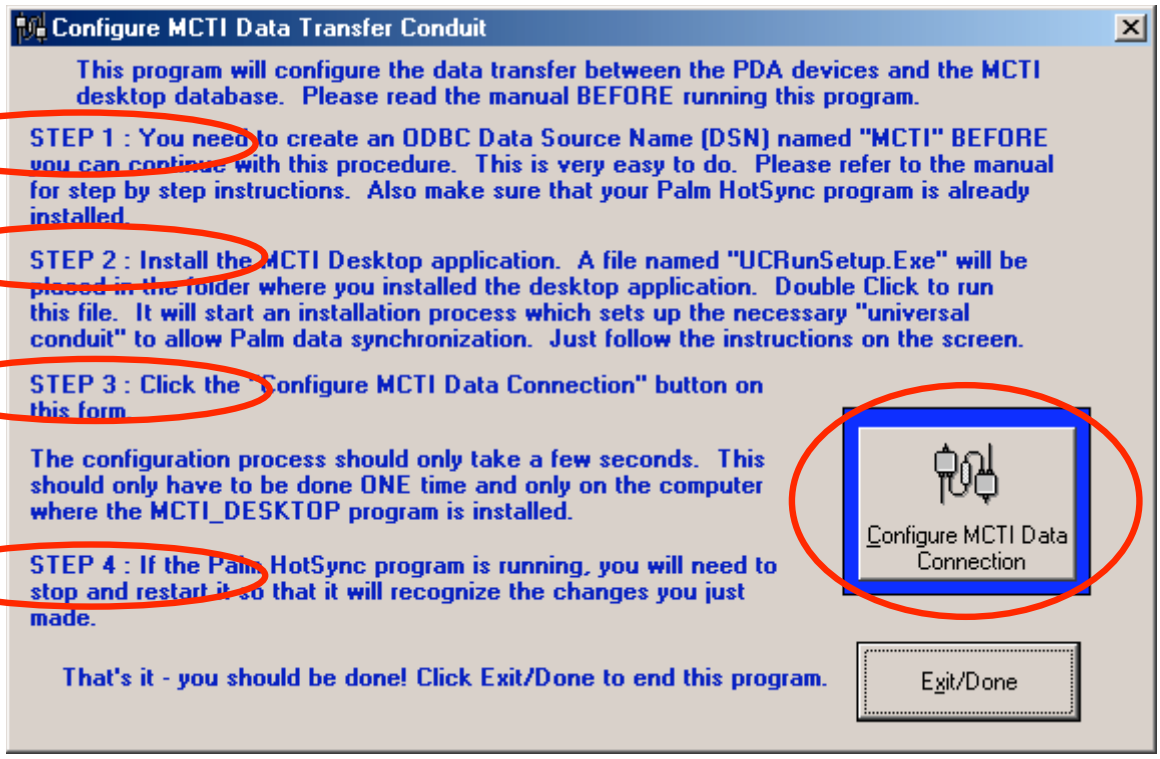
8c. Enter “MCTI” (ALL CAPS) for BOTH the Data Source Name and Descriptioin. Then click the SELECT button and find the MCTI.mdb. If you didn’t change anything when you installed the program, you should find it in “C\Program Files\MCTI Desktop”.





9. Now, we need to set up a "Conduit". Palm HotSync has a list of things to do and we need to add the MCTI data exchange to that list. We also have to tell it how to exchange the information. For instance, the lists of Surveyors and Tree Species are sent from the desktop application to the Palm and overwrite whatever was previously there. The Inventory information is sent from the Palm to the Desktop and is added to that database.

We've created a program that completely automates this process. The MCTI_Desktop installation will put a file named “**ConfigConduit.EXE**” in the folder where you installed the desktop application (usually C:\Program Files\MCTI Desktop). Double-click to run this file. A dialog box will appear on your desktop. Follow the steps indicated in the dialog box, **exactly** as indicated to configure the Data Transfer Conduit.



Step 1 & 2 of the dialog box will have already been completed if you have followed this Installation Guide properly, so you can proceed to Step 3 – Configure the MCTI Data Connection.

Click the "**Configure MCTI Data Connection**" button. After a second or two, you will see a “DONE message”. Click the Done button to exit this dialog box. This will automatically set up everything the programs need to know how to exchange data between your PDA and your MCTI Desktop application.

10. You will now need to close the HotSync® program if it is currently running and restart it so that it can recognize the changes you just made. You can do this by clicking on the HotSync® icon that appears on your Windows® taskbar at the lower right of the screen and choosing “Exit”. To restart HotSync®, use the Start button on your taskbar and navigate to the HotSync application, which is found under the Palm Desktop directory.

Installation Guide - Palm PDA Software

Installing the MCTI Palm® Application

MCTI requires a Palm® Powered personal digital assistant (PDA) running Palm® OS version 3.1 (or later).

First, and this is VERY IMPORTANT, you need to determine which version of the Palm OS (Operating System) is installed on your Palm® PDA. To determine your version of the Palm® software, look in the user manual for your Palm PDA, call the manufacturer, or look on their web site to find out what OS Version is on your Palm device. If you guess wrong, MCTI will not run and you will have to clear any of the incorrect version components of the program off your PDA before you can complete a reinstall of the correct software version. Following the instructions that came with your Palm device, install your Palm® software (including the HotSync® application) on your computer and make sure that HotSync® works OK.

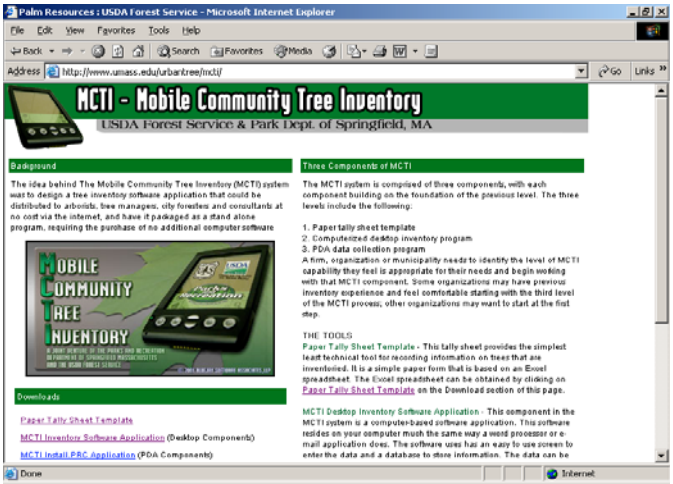
Installation Method One: Installing from a CD

1. Insert the CD into the CD-ROM drive.
2. If the CD does not automatically begin the installation process, double-click on My Computer, double-click the CD drive and then double-click the "Setup" icon.
3. Follow the prompts to complete the installation.

Installation Method Two: Installing from the Internet

1. Use your web browser to navigate to www.umass.edu/urbantree/mcti/

2. Click MCTI_Install.PRC Application for the version of the Palm OS that you are running on your PDA. You will then be directed to the correct site to download the files needed for the PDA application.

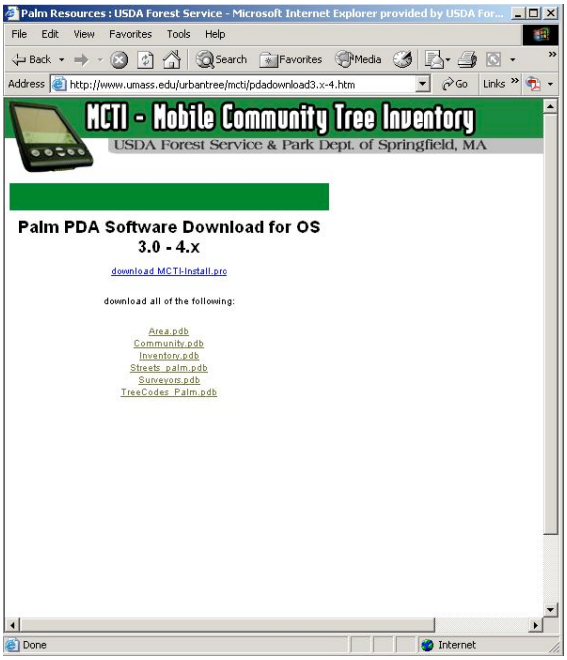


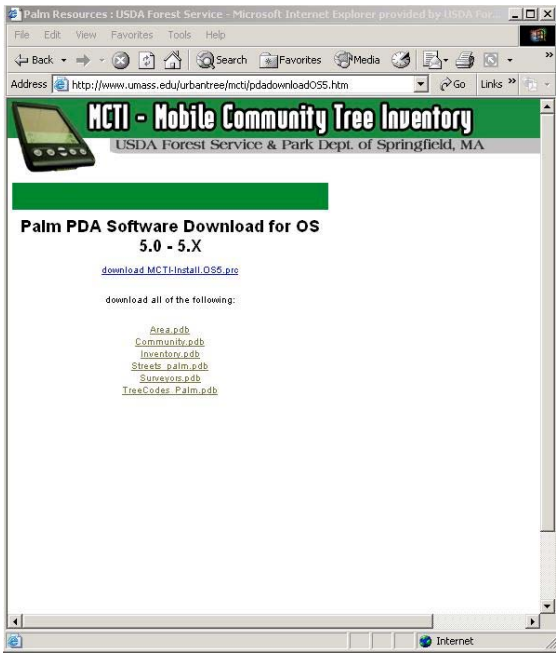
3. You will now find your browser at one of the following PDA download pages. From this page, you will download and install the actual MCTI-Install program, some support "run-time" files, and SIX database ("PDB") files on your Palm.

The following files will be found on the download page:

MCTI-Install.PRC - this is the program installation file for Palm OS 3 and 4
MCTI-Install.OS5.PRC - this is the program installation file for Palm OS 5

Community.PDB - database file
Inventory.PDB - database file
Surveyors.PDB - database file
Treecodes_Palm.PDB - database file
Area.PDB - database file
Streets_Palm.PDB - database file

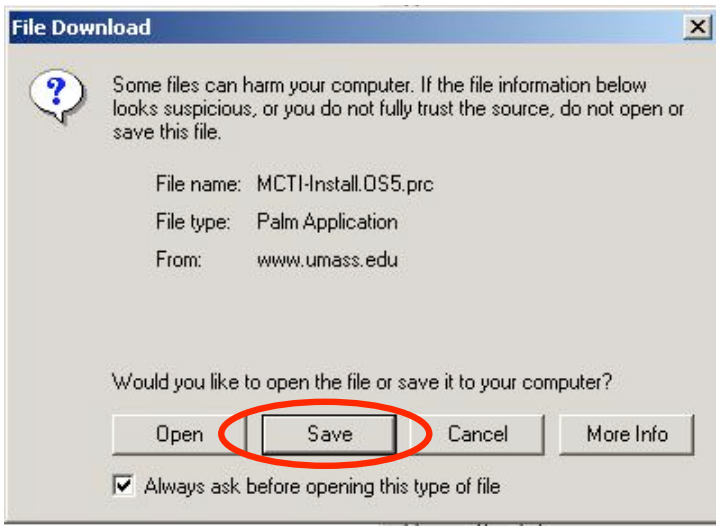




(NOTE: You will be see one of the two dialog boxes noted above, depending on which version of Palm OS that you are using.

4. Now you will download the files to your desktop for transfer to the Palm PDA.

4a. Click the "download MCTI-Install.prc" to download the PDA application to your desktop (or other directory of your choice). When prompted, choose the "save" button to place the file on your desktop or the directory.

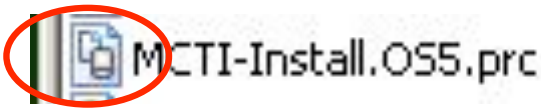


4b. Now you will need to download the remaining files from the website, so that they can be uploaded to the Palm PDA during your next HotSync. To do this, you will repeat step 4a for all of the following files, that are found on the website:

Community.PDB
Inventory.PDB
Surveyors.PDB
Treecodes_Palm.PDB
Area.PDB
Streets_Palm.PDB

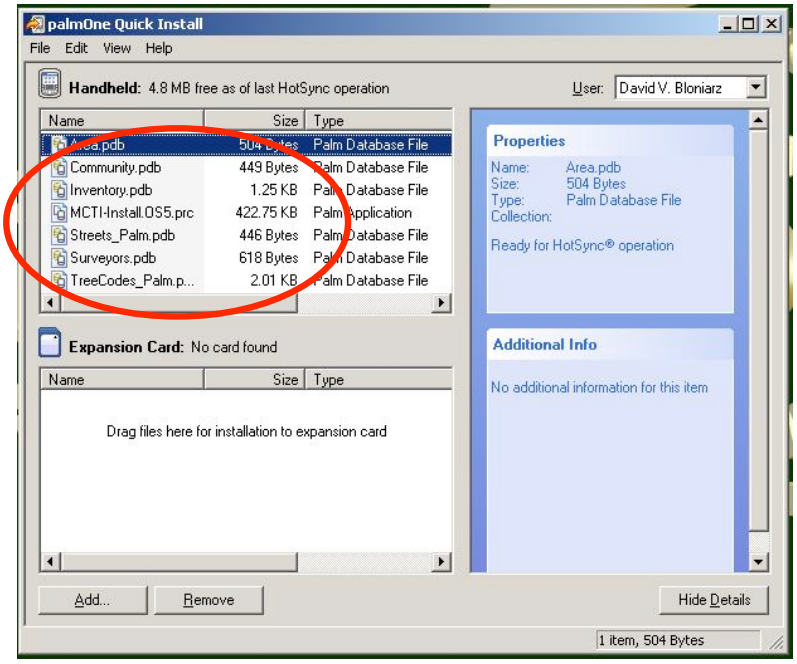
Simply double-click on each of the file names, save it to the same directory that you placed the MCTI-Install.prc. Once completed, all of the files should appear on your desktop (or folder that you chose earlier).

5. Now navigate to the location of the downloaded files, and double-click MCTI-Install.prc icon, in order to launch the Palm Quick Install application, which will place the file in the cue for transfer to the Palm PDA during the next HotSync.



6. The Quick Install application window will open on your desktop, and will indicate that the MCTI-Install file will be added to the PDA at the next HotSync. You then can either drag each of the following files into the Quick Install window, or you can simply double-click each on to add it to the cue for transfer to the Palm PDA.

Community.PDB
Inventory.PDB
Surveyors.PDB
Treecodes_Palm.PDB
Area.PDB
Streets_Palm.PDB



7. Once all your .prc files are placed in the Quick Install window, you can HotSync connect your Palm PDA to your computer and run HotSync. The software files will be uploaded to your PDA and you are ready to begin your inventory.

Troubleshooting the MCTI Software Installation

Most installation problems occur if you don't do the steps in the specified order or if you omit one. For instance, some users have reported getting a message referencing an "Error 4" when running the ConfigConduit.EXE program. That is generally because they overlooked the step which asks you to run **UCRunSetup.Exe** first. It's also really important that you install the Palm Desktop and Hotsync software that came with your PDA.

Also make sure that you have set up the ODBC connection. If you have multiple users on your computer and you want them ALL to be able to use the ODBC connection for MCTI, you may set up a SYSTEM DSN, instead of a USER DSNas instructed. The only difference is that a USER DSN is only visible to a particular user.

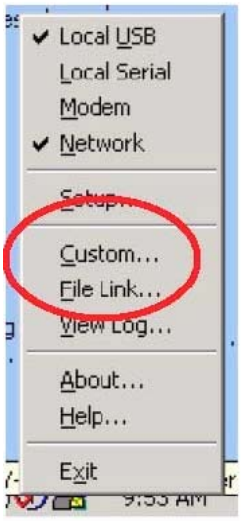
You may get an error message saying that "SETUP.LST" cannot be found when you try to install the desktop program. This generally occurs if you have downloaded the three install files for the desktop program from a web site. SETUP.LST is a small text file that gives instructions to the SETUP.EXE program. In an attempt to be helpful, your web browser may recognize it as a text file and append a ".TXT" to the file name, so it changes it toSETUP.LST.TXT, which really confuses the SETUP program. This may be hard to detect, if your computer is set to hide file extensions that it recognizes. If you get this error, try renaming the file to SETUP.LST and try the installation again.

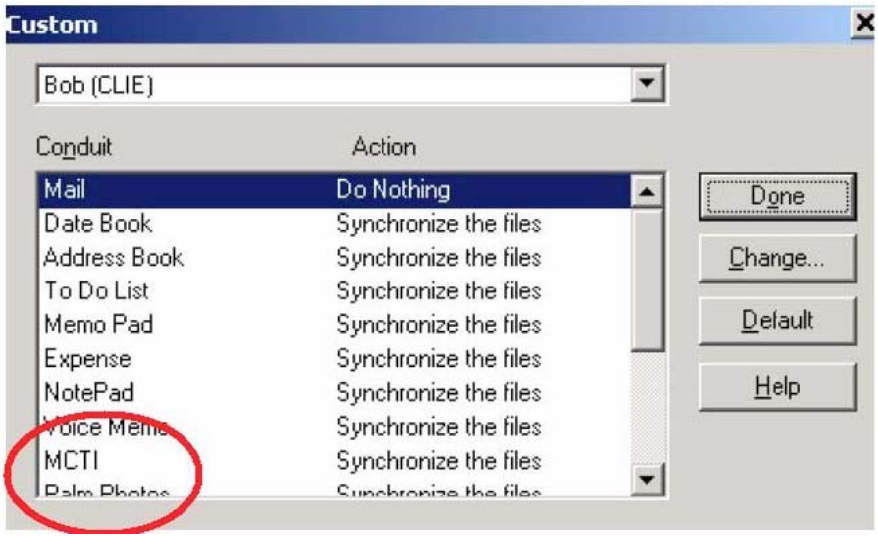
You may get an error message referencing UUCONFIG.DLL. Some earlier versions of the MCTI desktop install program put this file in the MCTI Application Folder (the location where you installed the MCTI Desktop program and database file), instead of the Windows System folder. This has been corrected in the newer installs, but if you have this problem, you just need to COPYUUConfig.DLL FROM the application folder (by default this is "C:\ProgramFiles\MCTI_Desktop") TO the **Windows System Folder**. For Windows 95/98/XP, this is C:\Windows\System32. For Windows NT/2000, it isC:\WINNT\SYSTEM32. (There may also be a WINDOWS\SYSTEM folder. Don't get confused, you want the SYSTEM**32** folder).

If the Desktop program refuses to install, or your computer will not allow you to create an ODBC connection, your local IT Manager may have locked down your machine. This is common in large organizations. You will need ADMINISTRATOR rights to YOUR WORKSTATION (this is different than your level of Network Access). If this is the case, you will have to ask for assistance from your IT Department. They may be able to grant you temporary Administrator rights – or they may have to come and do the install for you.

If everything installs OK but you cannot HotSync tree data from your PDA to the Desktop, check to make sure that the MCTI Conduit is being recognized by HotSync. This is actually pretty easy to do. At the bottom right of your computer screen (on the Windows Task Bar), you will see a HotSync icon.

Click it and a menu will appear. Click "Custom"





Make sure that MCTI appears in the list of conduits. If it does not, try exiting from HotSync (or rebooting your computer) and look again. On a new installation, it sometimes does not appear until HotSync has been restarted.

MCTI Operation Manual

Customizing the program for first use

You must complete the following instructions on your MCTI desktop application. The setup that you complete by the following steps will then apply to both the desktop and PDA application, once you complete a HotSync operation.

This section will guide you through the process for setting up the MCTI to function in your city or town. This is the same process for updating custom information.

Listing Surveyors
Click > File > Surveyors
In this window you list all of the individuals that will be collection information

Listing Tree Species
Click > File > Species
In this window you will place a check mark next to all of the trees that are commonly found in your area.

Listing Area Descriptions
Click > File > Area Descriptions
In this window you will be able to add an area descriptions such as “street tree” or “park tree”.

Listing Streets
Click > File > Street List
In this window you will be able to add individual street names or import an existing street list database from an excel file. You will place a check mark next to the streets that are needed for the inventory. You may also delete streets that are no longer needed for the database.
* In both *Species* & *Street List* there is an option to “Create file for PDA” – this ensures that you have transferred your selections to the Palm device

Identifying the Community
Click >Setup
In this window you will need to choose a community where the inventory is going to take place. (This is extremely important as this information for a piece of the Tree ID Number.)

Collecting Data

Information can be collected for the MCTI in two different ways, paper or hand held PDA) device.

Paper Recording Sheets

A standardized paper form can be obtained from the USDA Forest Service Northeastern Area at http://www.umass.edu/urbantree/mcti/

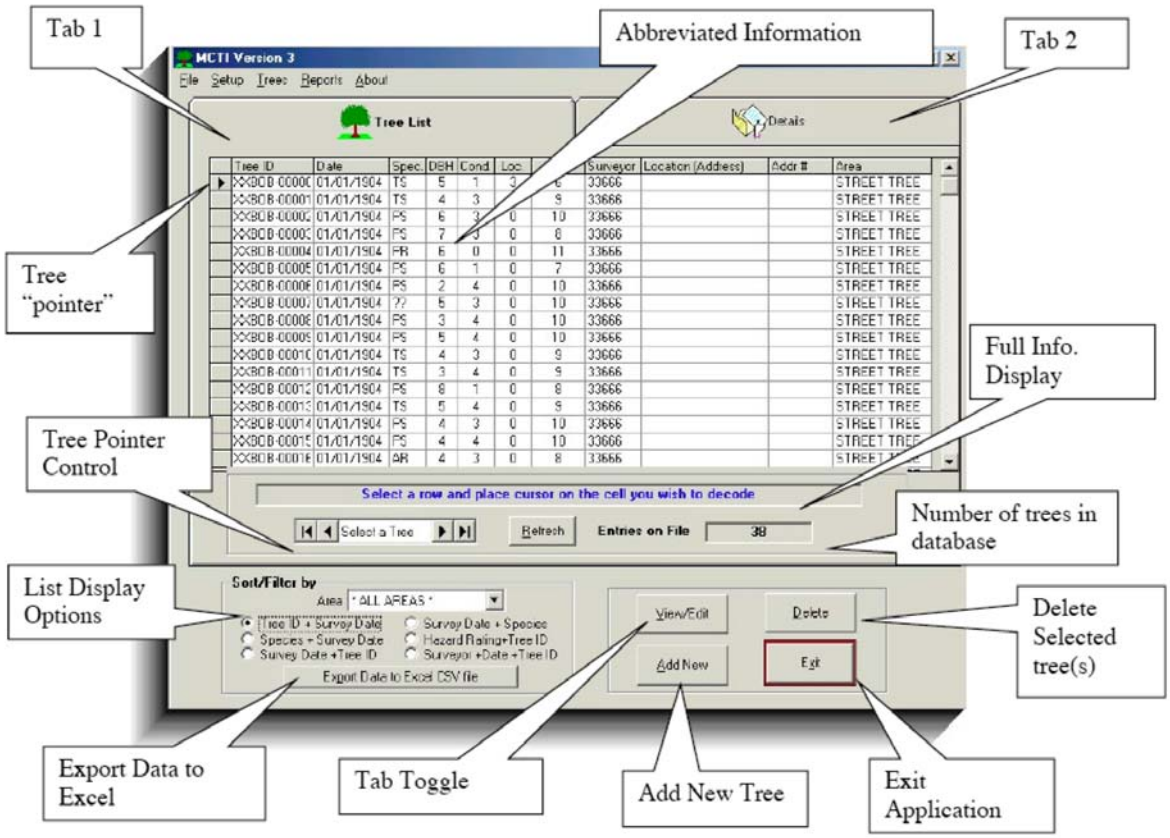
Paper forms can completed in the field and later entered into the MCTI desktop program where they can be analyzed and evaluated the same as if they were downloaded from a PDA.

Palm PDA

The most efficient way to record your inventory data is to use a Palm PDA. This method reduces the chances of error, eliminated the need for entering data twice, and saves time. Use of the PDA is outlined later in this manual.

Data Input on MCTI Desktop (manual entry)

Step 1 Launch MCTI from the Start Menu. MCTI will open to the "Tree List" screen.
Step 2 If you are updating an existing tree click on the row and tree number to edit the databse.



Tab One – Tree List

This screen gives the user a quick look at all of the trees that are stored in the database. When the user moves the mouse over the abbreviated information in the white boxes the information is displayed in full in blue text.

Tab 1 - List of controls and their functions

Select a tree	Use the arrows to move the "pointer" move up and down the list. The tree that has "pointer" will be the record that appears when the user selects tab two or clicks on the "view / edit" button.
Refresh	The button forces the application to update all of the table based on changes in a record(s).
Sort by	The user can determine in what order the trees are displayed.
View / Edit	Changes the users screen from a list of trees to the specific tree that is being pointed to on tab one.
Delete	Deletes the tree that has the "pointer".
Add New	This function will add a new tree to the database
Exit	Will save and then exit the users session.

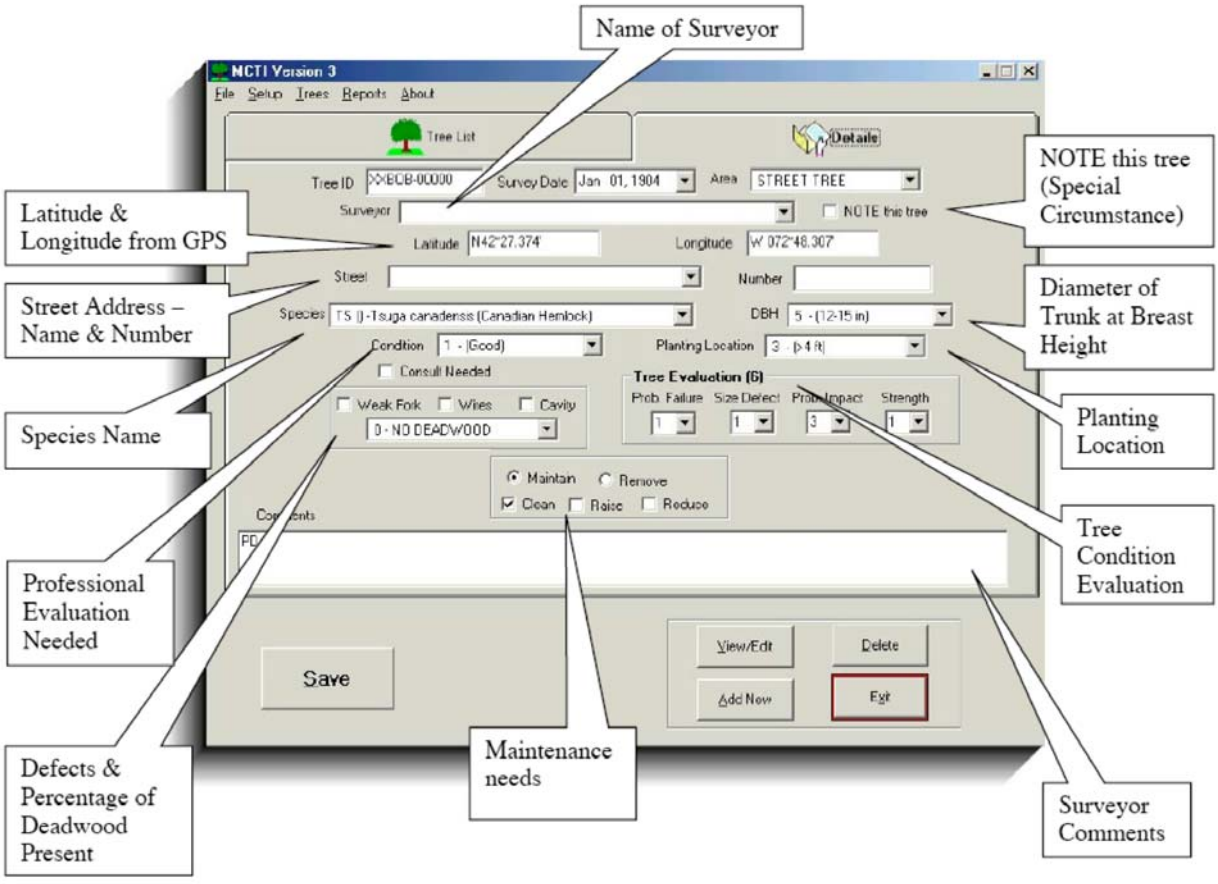
Tab Two – Details

This screen shows the user detailed information about a particular tree. The screen allows the user to manipulate information about a tree. All fields require a value.

Tab 2 - List of controls and functions

Tree Id	This number is provided automatically based on the state, town, and sequential number
Survey Date	Date this particular tree was surveyed
Latitude and Longitude	Information pulled from a GPS unit
Location / Address	Nearest property or landmark
Species	Scientific name of tree
DBH (diameter as breast height)	The measurement of the tree at breast height. Round down to the nearest option
Planting Location	The placement of tree options are: Sidewalk ~ planted in sidewalk planter <3 ~ in less than 3 ft of sidewalk >3 ~ in more than 3 feet of sidewalk lawn ~ located on a terrace or park property
Condition	Generalized perception of the health of the tree, options are: Unknown, good, fair, poor, dead
Consult	Unknown health of the tree, requesting aborist inspection
Weak Fork	The tree has more than distinct trunk. One trunk shows sign of age and wear.

Cavity	
Wires	The tree has power lines running through it
Dead wood	The percentage of the tree that best describes the amount of deadwood.
Hazard Rating	See Appendix B
Maintain / Remove	Should the tree be treated or cut down?
Clean Raise Reduce	The type of pruning that is necessary to get the tree in good shape.
Utility Hazards to line	Likelihood a tree could interfere with a power line
Electric Hazard	Type of potential contact
Trim Type	Historical trim around utility lines

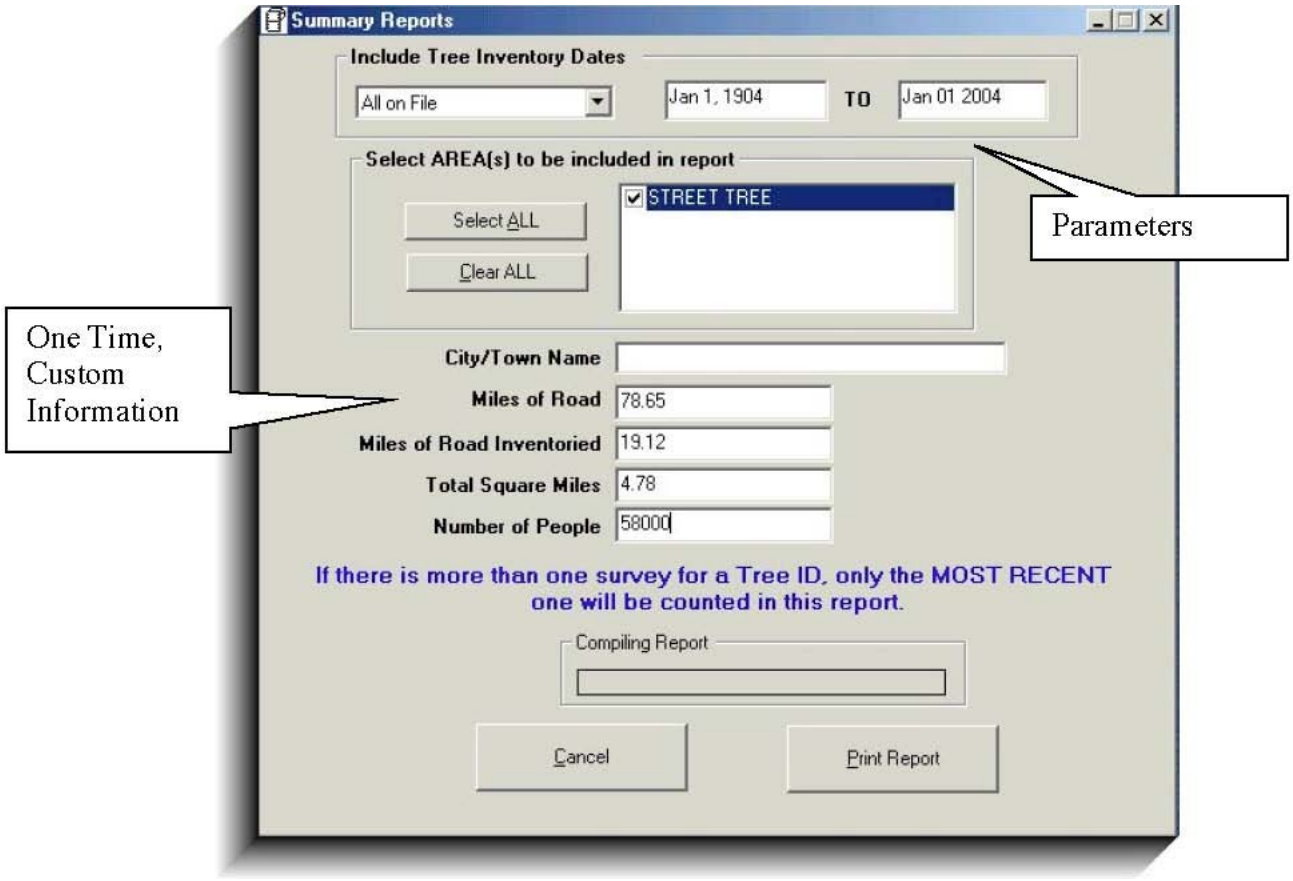


Printing Reports

Click > Report > Summary Report

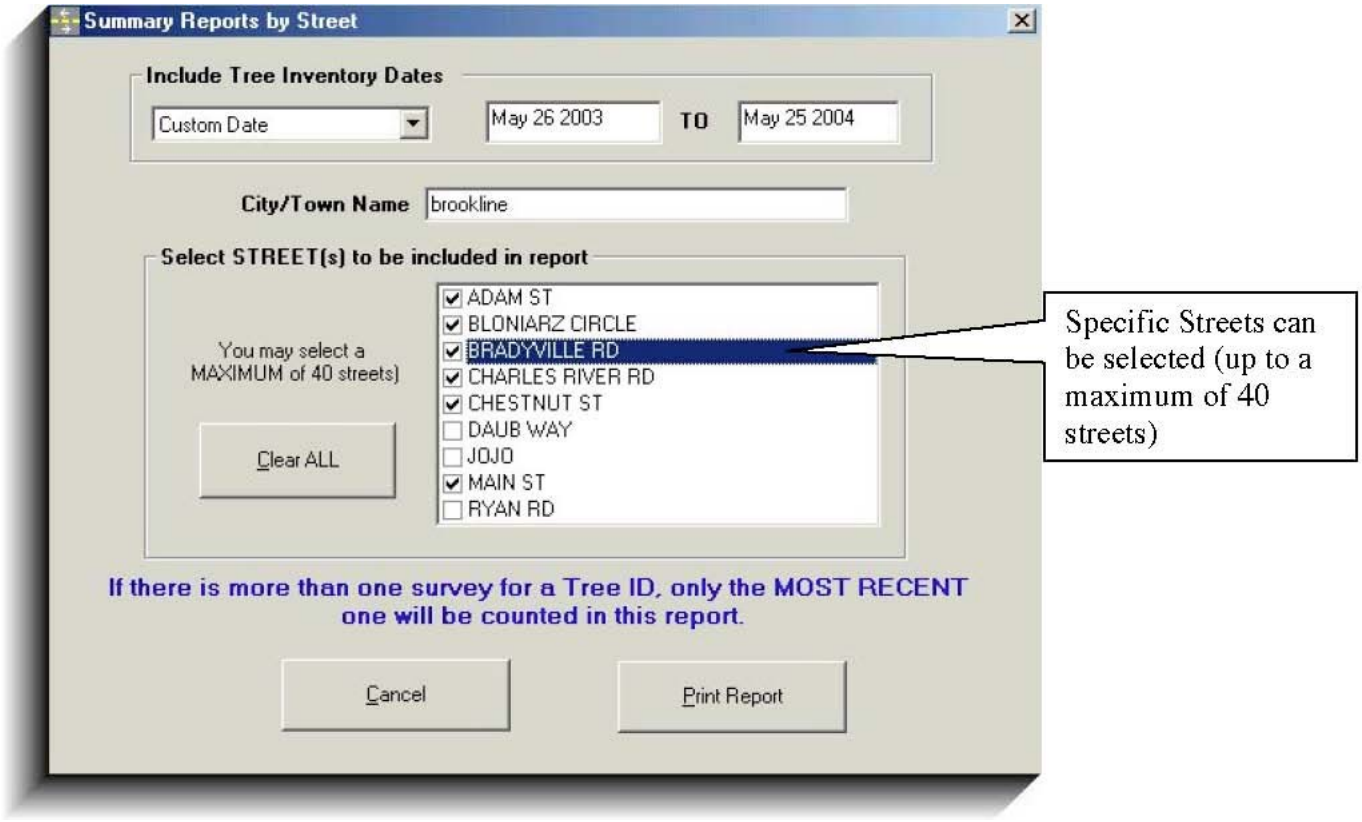
In this window (Summary Report) you will be able to create a report that uses the custom information collected to calculate important statistics. You will need to configure the "One Time, Custom Information" at the start of your report analysis. This information will only need to updated if you change the number or miles of road inventoried, or you move to another community.

The "Parameters" allow you to customize the range of dates of your reporting analysis.



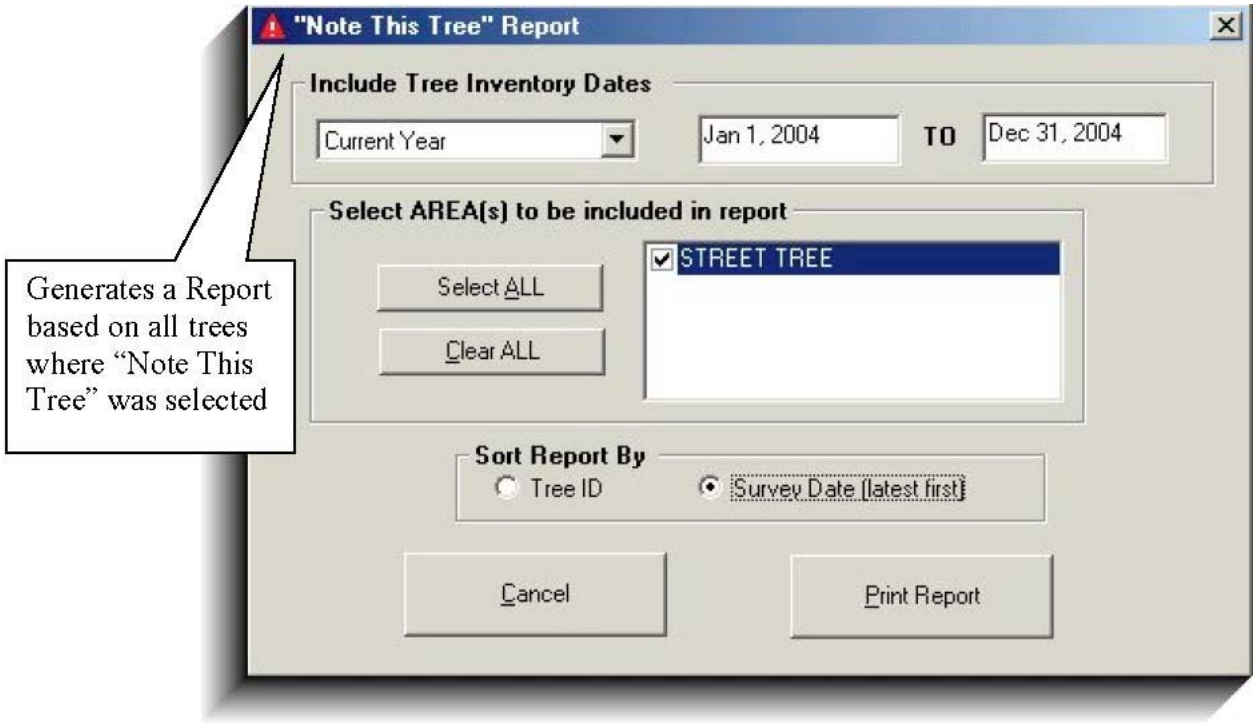
Click > Report > Street Summary Reports

In this window (Street Summary Report) you will be able to select specific streets to be included in the summary report . A maximum of 40 streets may be selected at one time.



Click > Report > Trees with "Note this Tree" flag

In this window ("Note this Tree" Report) a report will be generated that includes all inventoried trees marked with "Note this Tree" designation.

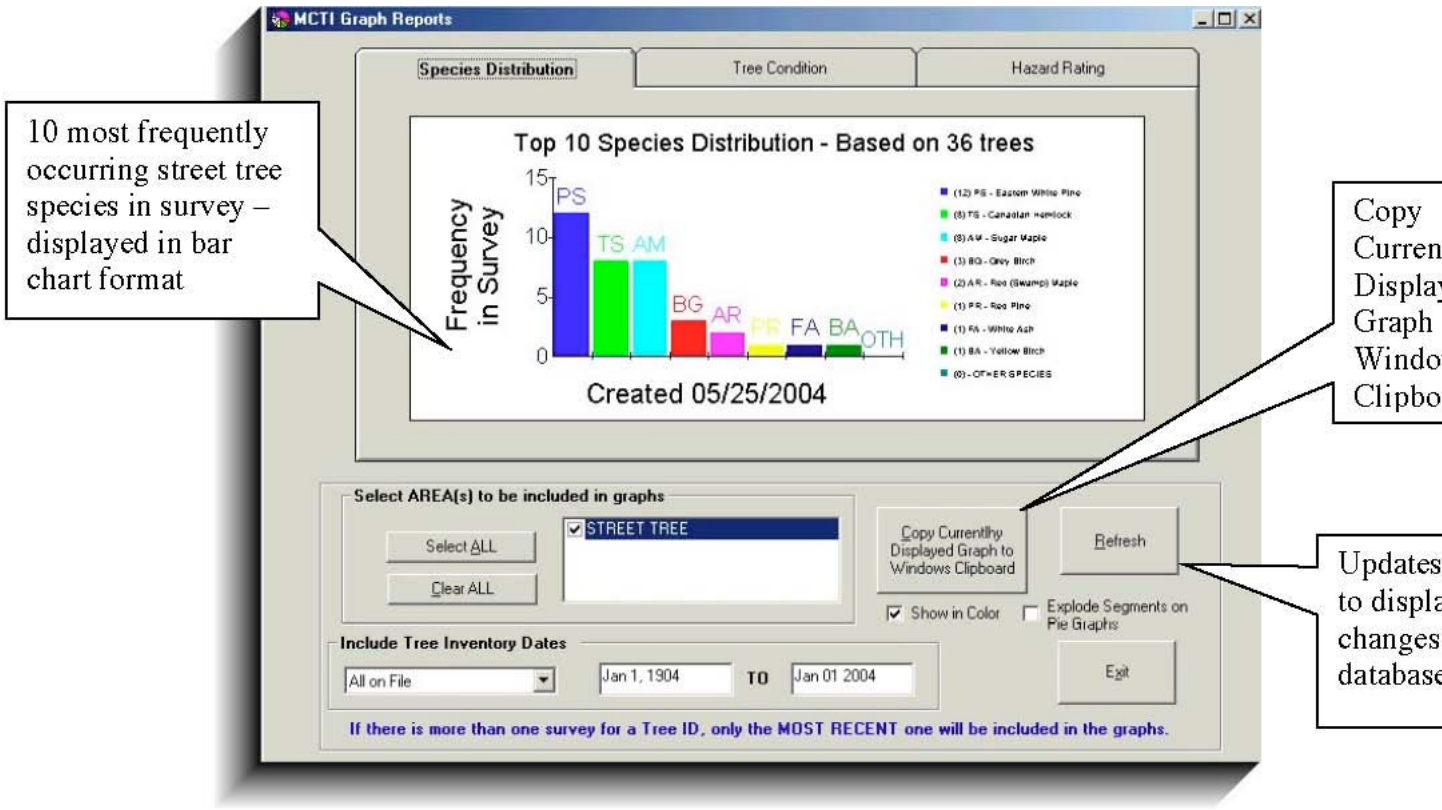


Click > Report > Graphic Reports

In this window Graphic Reports will be created based on Species distribution, Tree Condition, and Hazard Rating. Three types of Graphic Reports can be easily generated using the tab features of this dialog window.

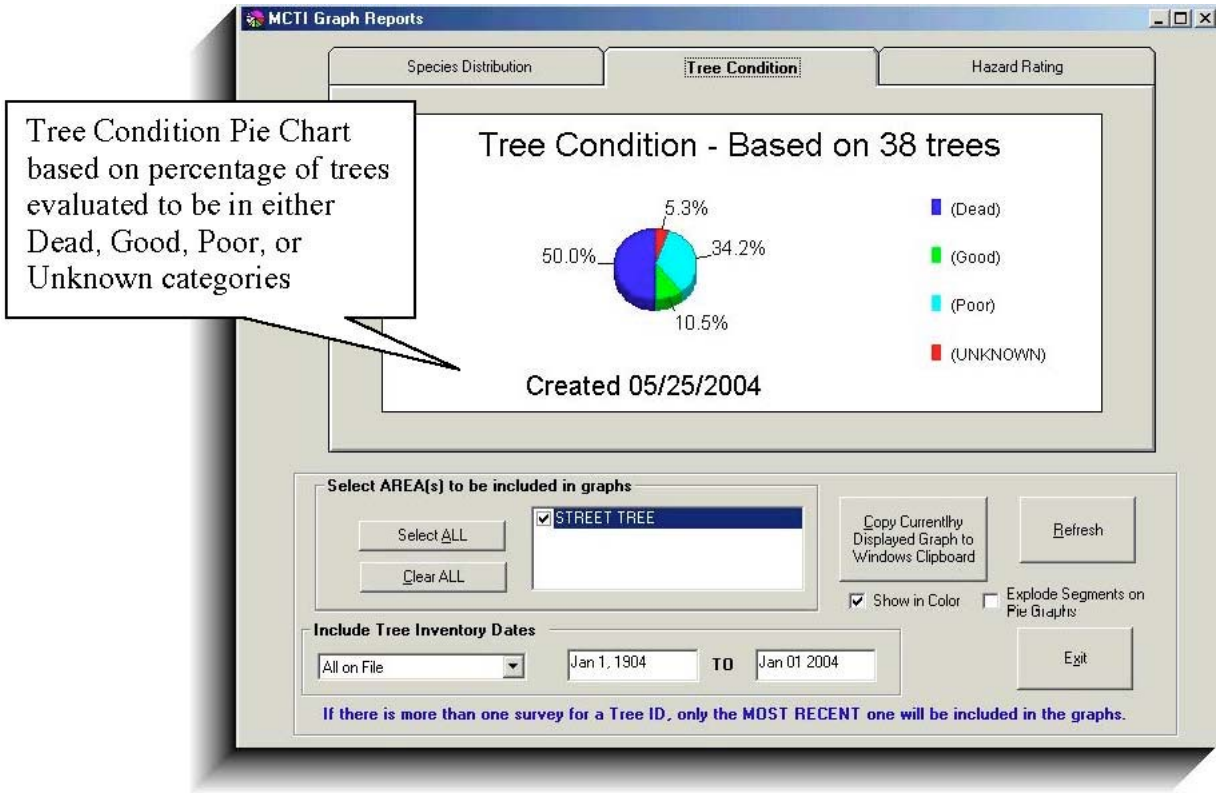
Tab One – Species Distribution

Provides a bar graph of 10 most frequently ocurring species



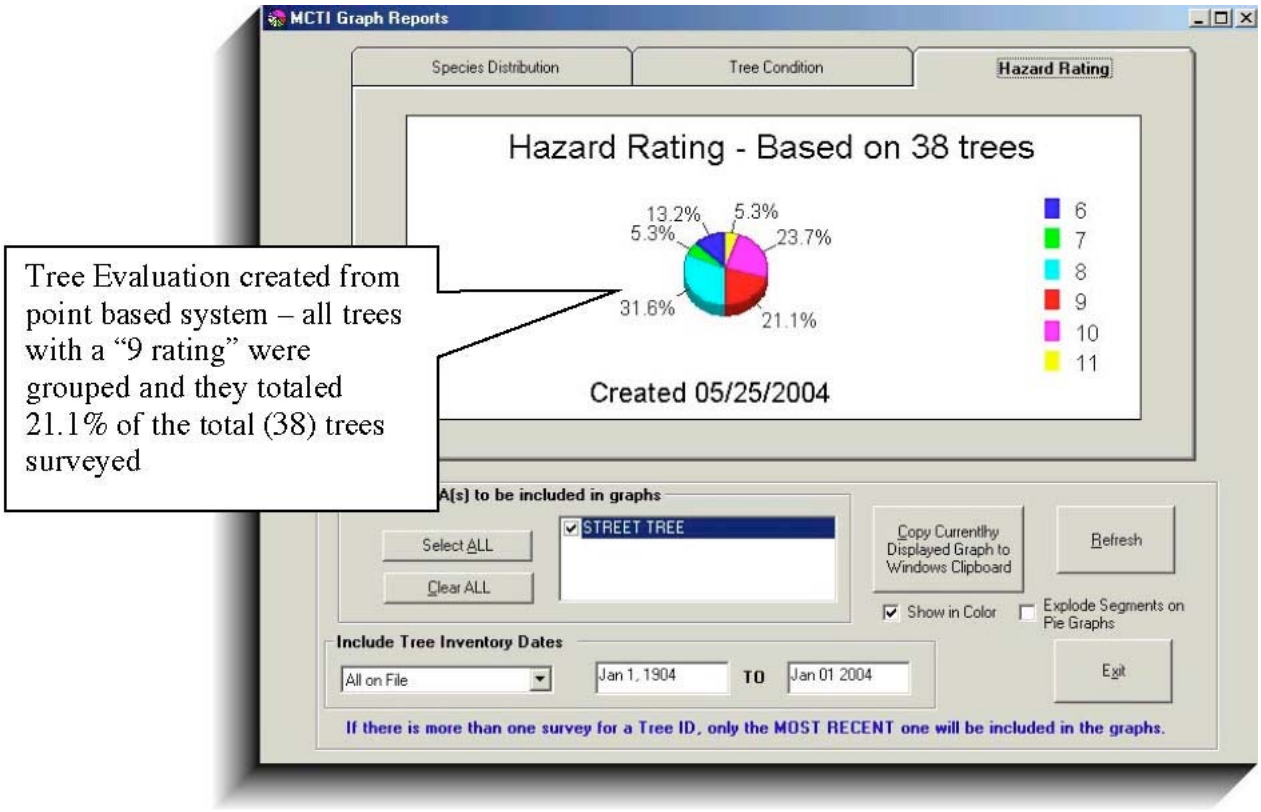
Tab Two – Tree Condition

Provides a pie chart for the percentage of trees exhibiting a given condition (Good, Fair, Poor, Dead, etc.)



Tab Three – Tree Evaluation

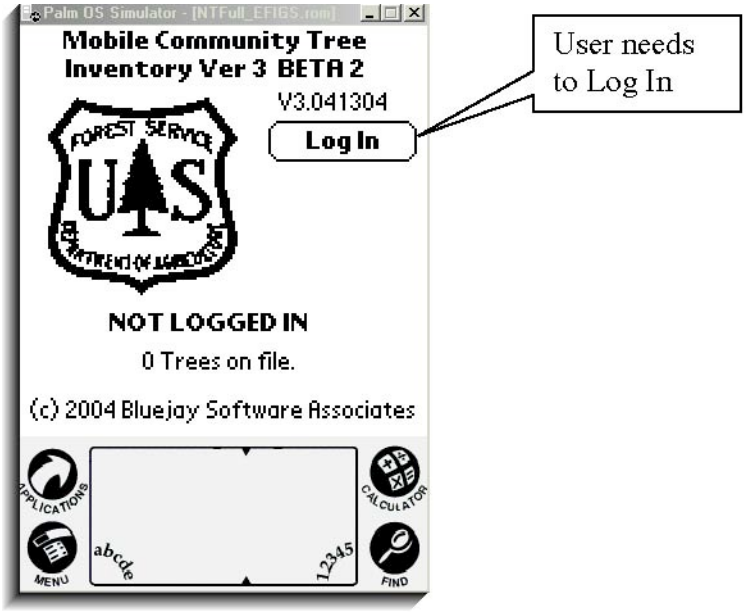
Creates a pie chart (percentage) for categories of risk tree evaluation (the number of points earned by a tree becomes a category –a group is created for all trees evaluated with an overall score of 9 points or greater)

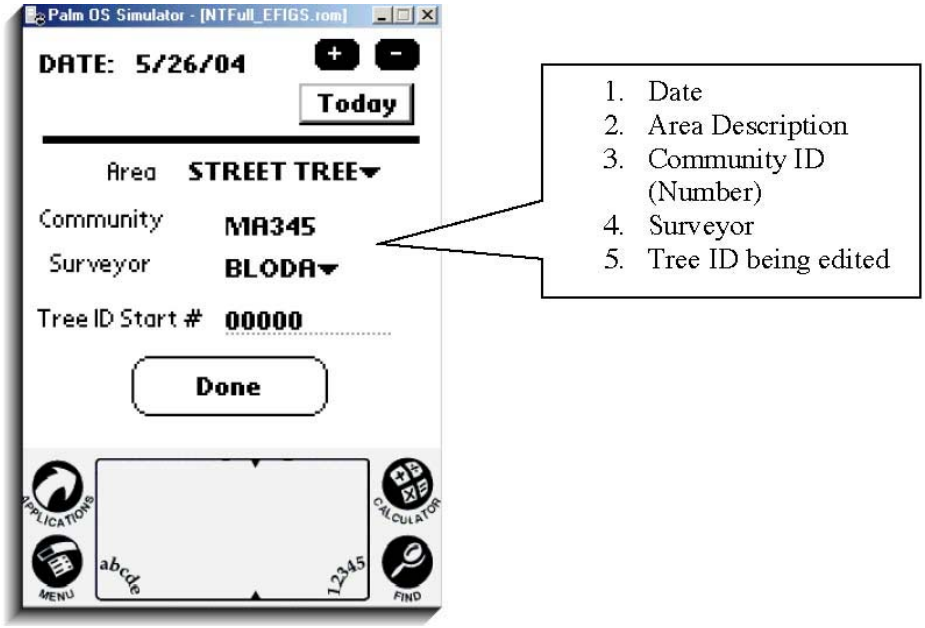


Data Input (with a Palm OS Hand Held)

The palm pilot input screens are exactly the same as the desktop input screens. For detailed description of the individual fields please refer to the evaluation criteria, outlined in the MCTI Desktop data entry section of this manual.

The Start: Login Screen

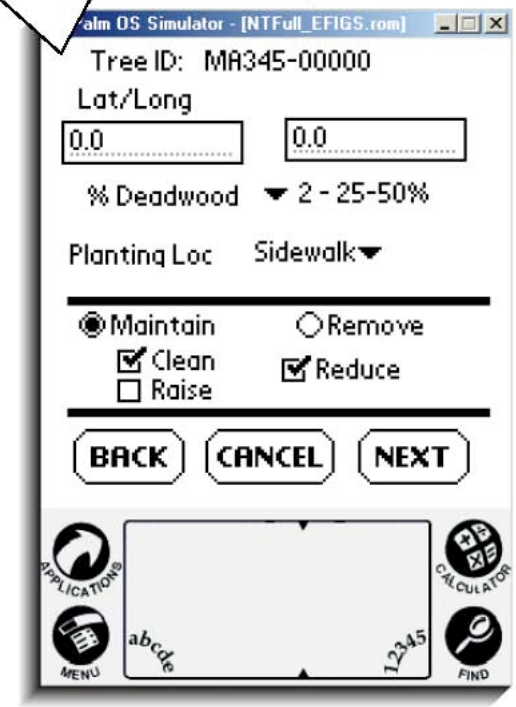




To Add a Tree(s):

6. Street Number
7. Street Name
8. Species Code
9. Condition
10. DBH
11. Consult Needed
12. Weak Fork
13. Wires Present
14. Cavity Present

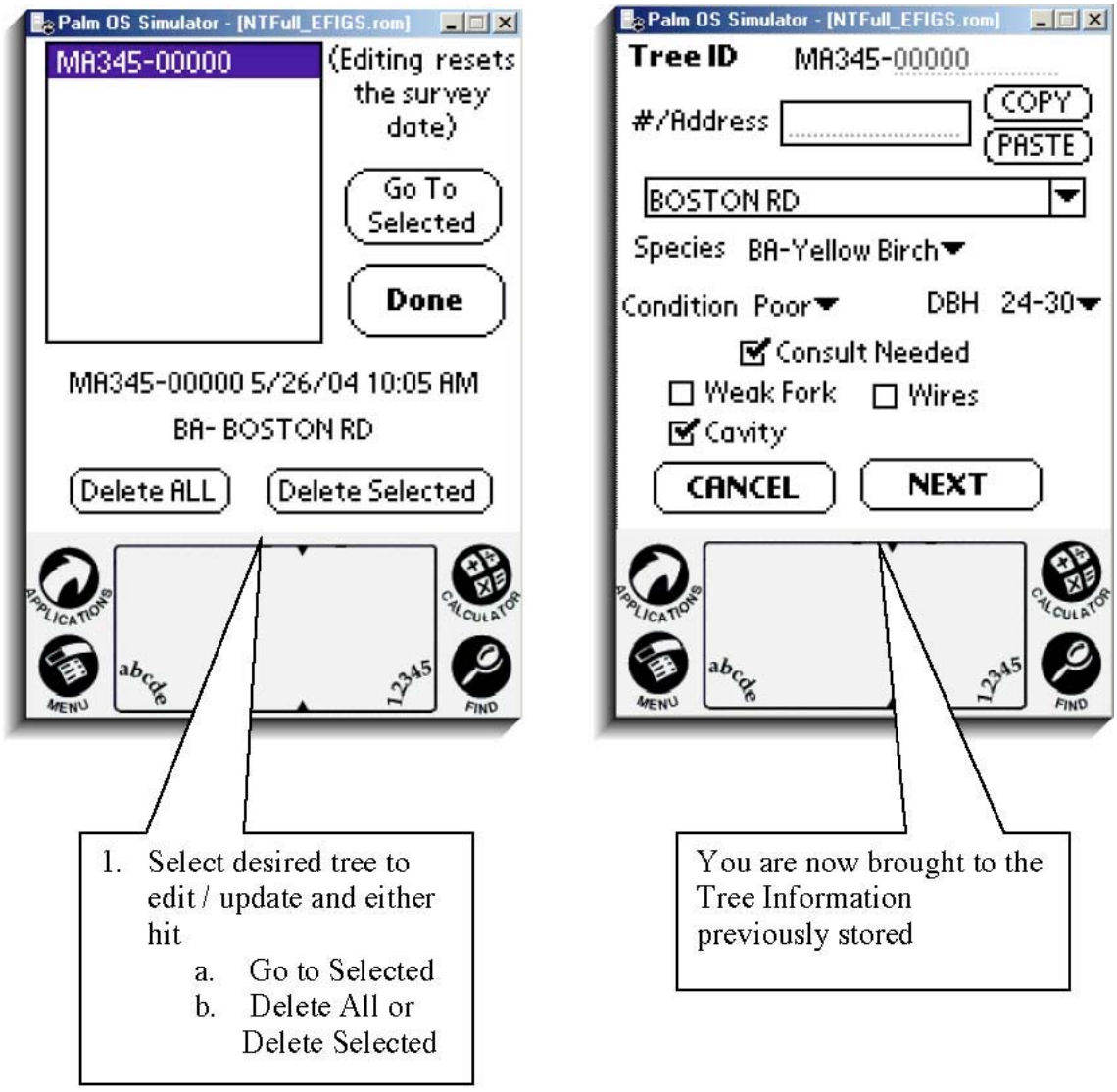
15. Latitude / Longitude
16. Percentage of Deadwood
17. Planting Location
18. Maintenance Needs (Remove or Maintain)
    - Clean
    - Raise
    - Reduce



19. Tree Evaluation (check the Tree Evaluation Box to bring up point based scoring options for the categories of:
    - Probability of Failure
    - Size of Defect
    - Target Impact
    - Species Rating

20. Note This Tree: Checking this will enable you to generate a report of all trees selected with this option

Edit or Update a Previously Recorded Tree:



Transfer the Data from PDA to MCTI Desktop:

Once you have completed your work for the day, place the Palm PDA into the HotSync cradle and press the Hot Sync button. MCTI will transfer the data from your PDA to the computer. Note: MCTI will not delete entries in the PDA without permission from the user. At the start of your next field session **Do Not Forget** to delete the trees, that have already been transferred via HotSync to your MCTI Desktop, from your PDA unit.

NOTES: