i-Tree Streets: Inventorying and Assessing Street Tree Populations

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- City of Springfield for hosting this workshop
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- Al Zelaya, Davey Tree Expert Company
- Northern Tree Service

Thank you!

The New York Times
nytimes.com

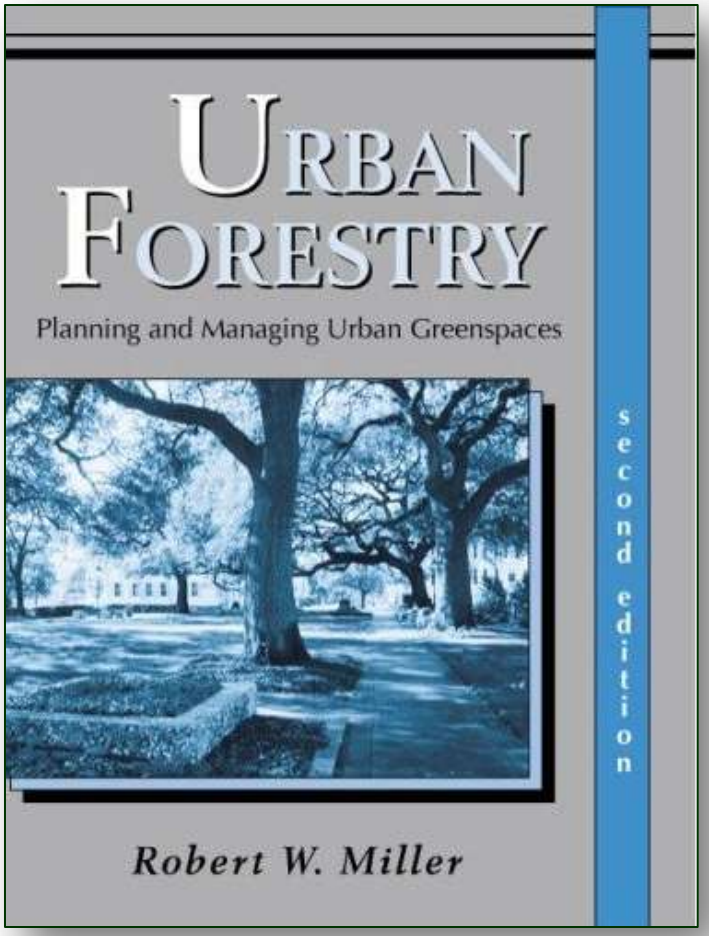
April 18, 2007

Maybe Only God Can Make a Tree, but Only People Can Put a Price on It

- Public health
- Energy conservation
- Storm water mgt.
- Pollution mitigation
- Carbon strategies
- Climate change
- Green job creation…

Improving Management Decision Making

- "*The primary objective of a good street management plan should be to* ***maximize public benefits from street trees and to minimize public expense*** *in achieving these benefits*"



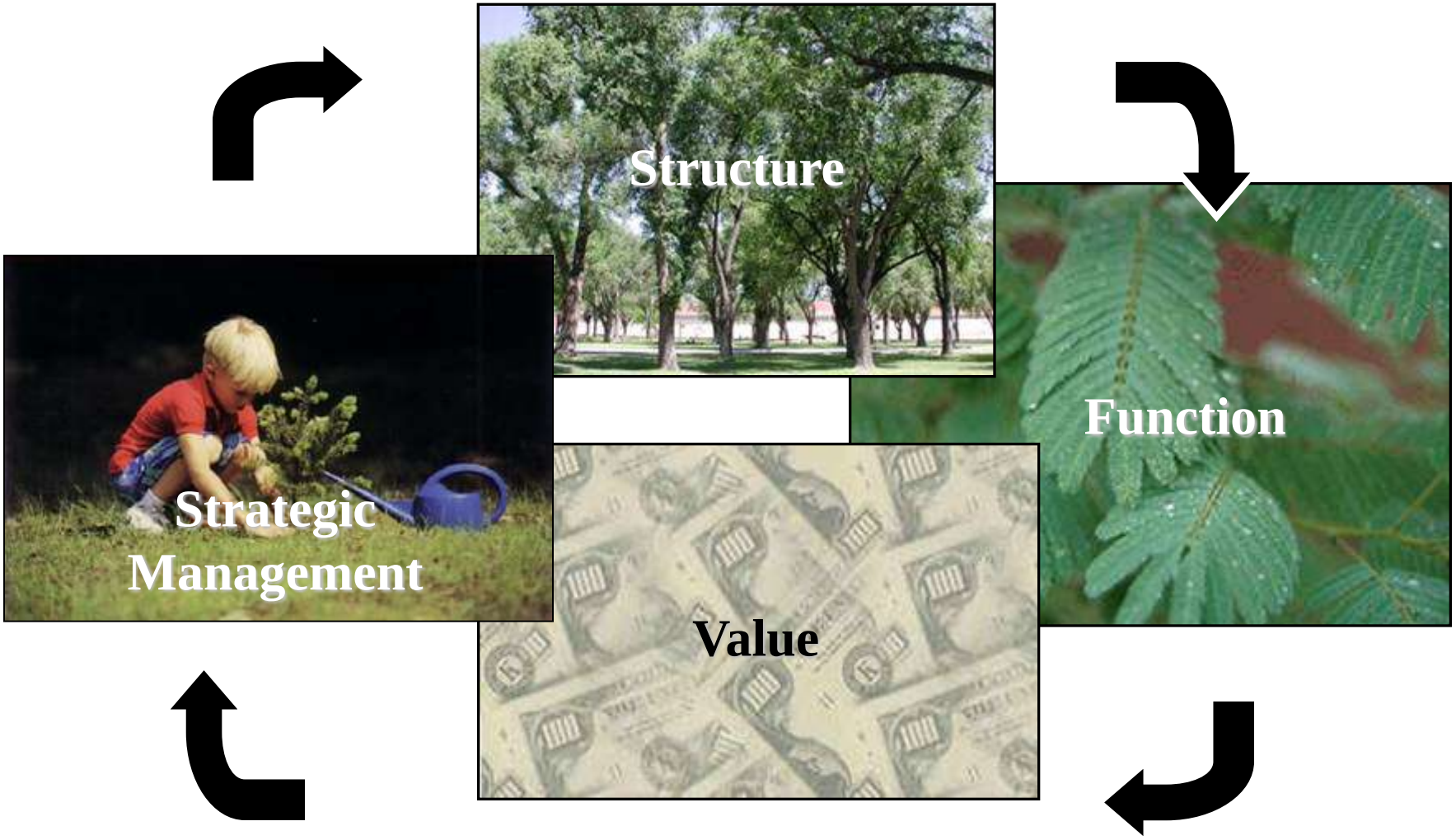
i-Tree Streets: Information for Better Tree Management

- **Input**:
  - Conduct new inventory
  - Sample street segment inventory (3-6%)
  - Or import an existing inventory data
  - Price adjustments, mgmt. costs
- **Output**:
  - Graphs, charts, tables
- **Benefit**:
  - Baseline data to more effectively manage & advocate for the street tree resource

What makes Streets different?

- Street trees, not entire urban forest
- Costs, not only benefits
- Management tool, not only for advocacy
- Tree inventory-based, not GIS
- Answers the question: do the accrued benefits of street trees outweigh the cost of their management?

Benefit-Based Approach



Assessing Street Tree Populations

Streets assesses:

- Structure
- Function
  - ✓ Energy
  - ✓ Air pollution
  - ✓ Stormwater *
  - ✓ Carbon
  - ✓ Aesthetic Value *
- Value
- Management needs *
- Pest Detection* Module (Beta)

Conserving Energy

Image courtesy of the Center for Urban Forest Research

Reducing Atmospheric Carbon Dioxide

Image courtesy of the Center for Urban Forest Research

Reducing Stormwater Runoff

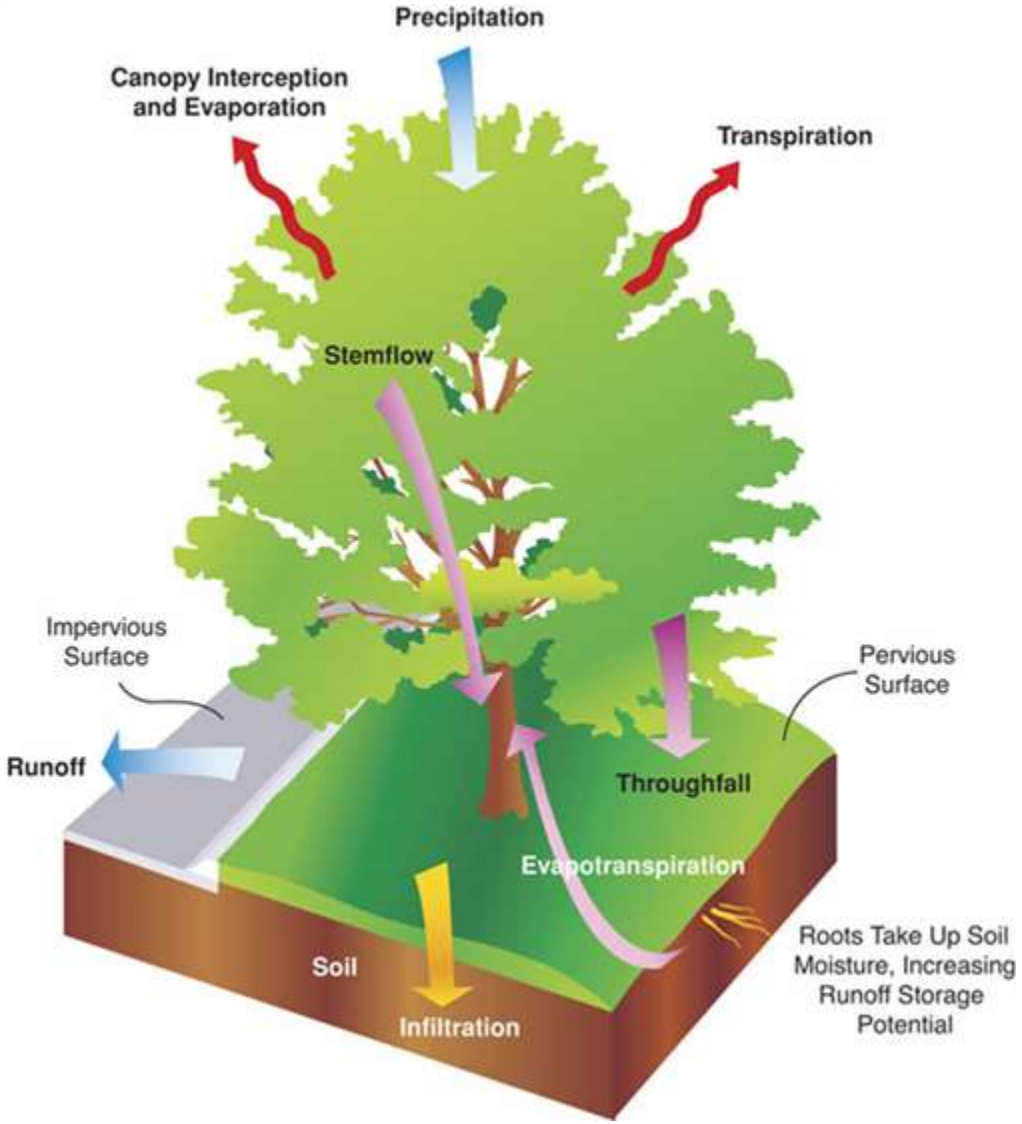


Image courtesy of the Center for Urban Forest Research

Improving Air Quality

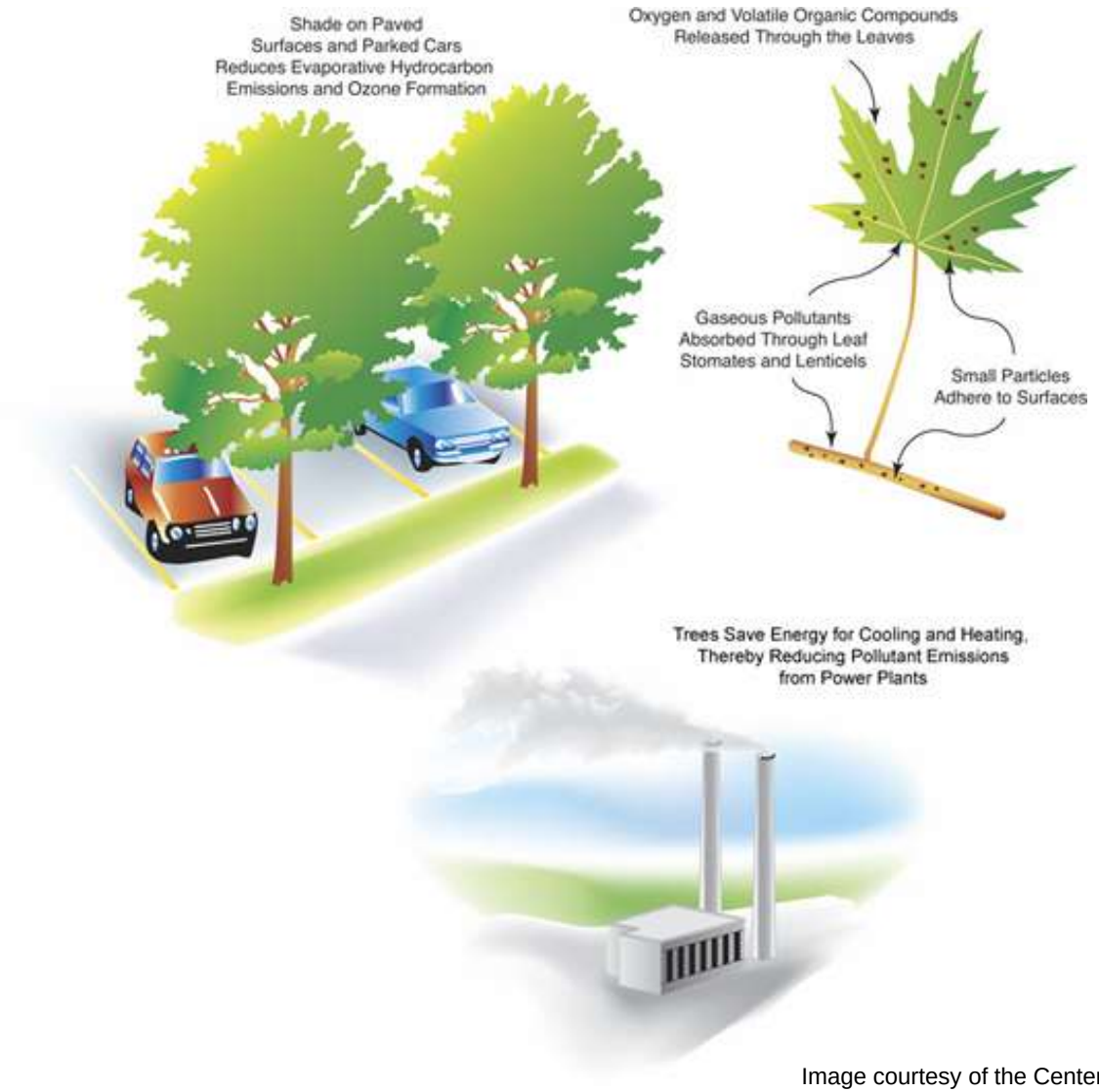


Image courtesy of the Center for Urban Forest Research

Aesthetic and Other Benefits

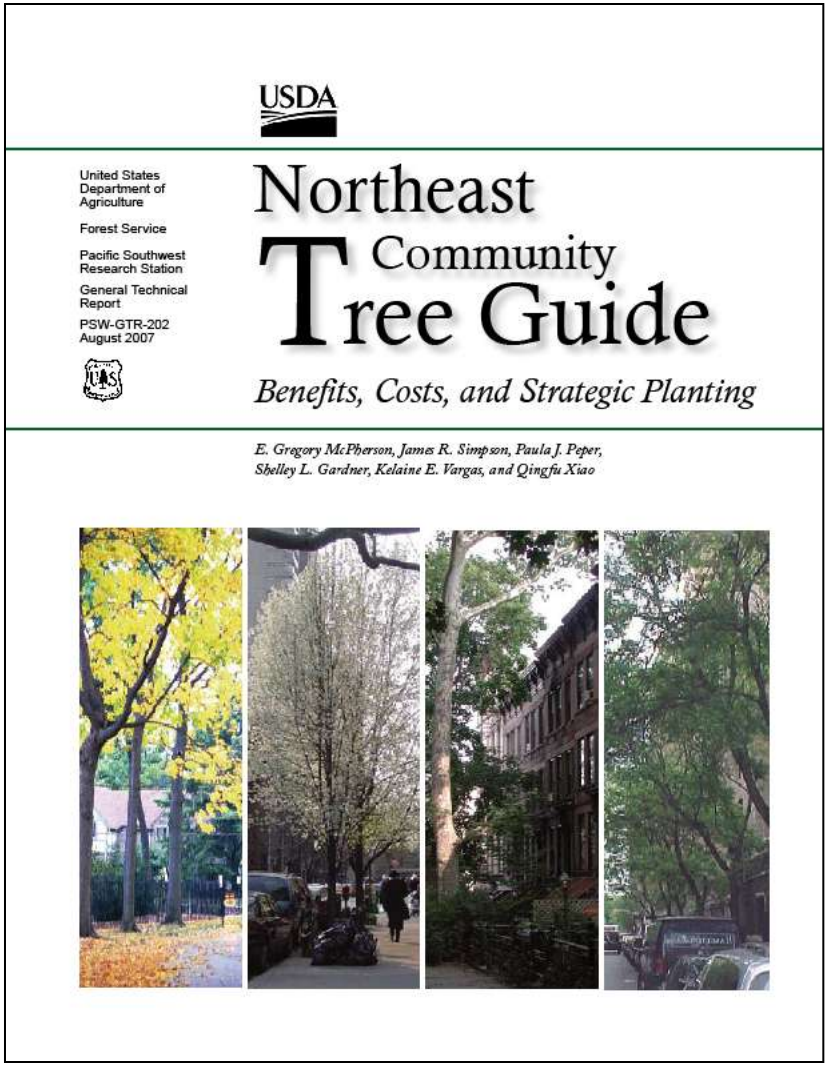
Streets Background & Methods

- To demonstrate new ways that trees add value - quality of life - to communities.

Center for Urban Forest Research
USDA Forest Service
PSW Research Station

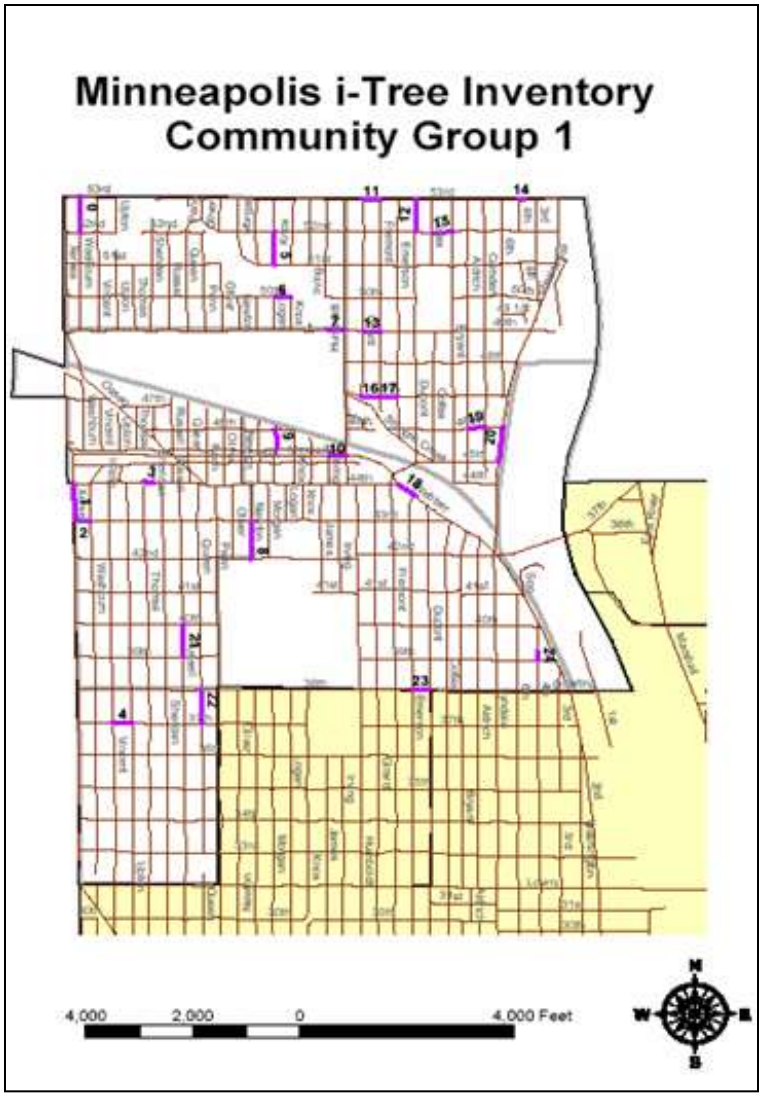
Streets Foundation: Reference City Research

- Regional ***Tree Guide*** studies to develop growth models of representative street trees and their dimensions as a basis for Benefit-Cost Analysis.



www.treesearch.fs.fed.us/pubs/25927

Sample Based Assessment



Street Segment Example

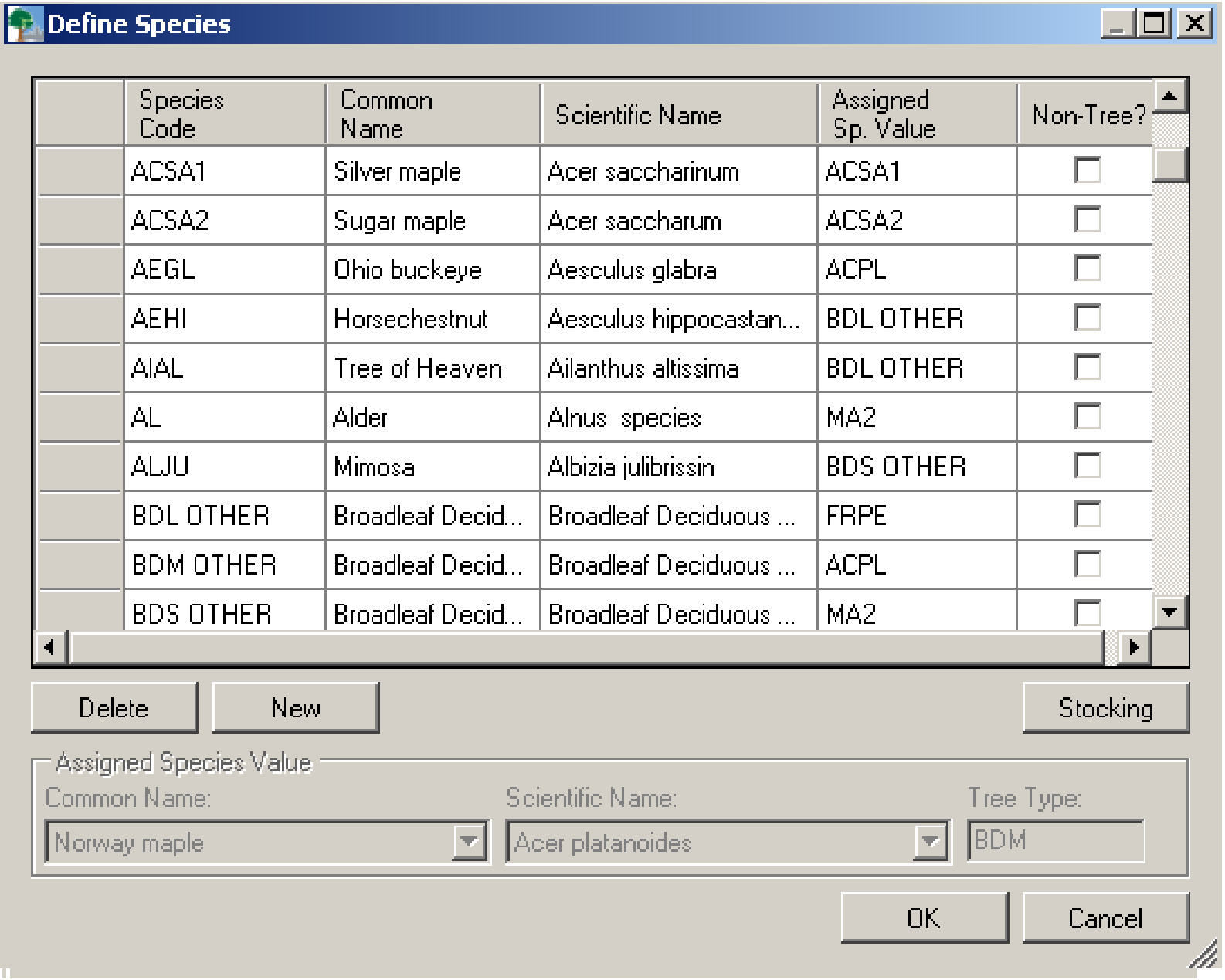
Research Process—Functional Analysis

- Models use structural data – (size at various ages).
- To determine magnitude of annual benefits:
  - Energy saved
  - Atmospheric CO_2 reduction
  - Air pollutants removed
  - Rainfall intercepted
  - Aesthetics & other

Research Process—Structural Analysis

- Data collection 25 field measurements for each tree
- 900 trees, 20 predominant regional species
  - age, species, dbh, ht., crown dia., condition, digital photos, foliar biomass samples, etc.
- Calculate leaf area and foliar biomass
- Regression models predict growth.

Regional model with local adjustments



Sweetgum in (3) climate zones at age 40

Inland Empire

Coastal S. CA

Central Valley

What Equipment do you need to use Streets?

- Pentium or compatible 1600Mhz or faster processor
- 512 MB of RAM
- Monitor with resolution at least 800X600
- Hard drive with 500 MB free space
- Windows XP service pack 2 or higher, including Windows 7
- For PDA and external device users: Windows Mobile 5.0 – 6.5 operating system (OS 7 is not currently compatible

Updates Coming!

Summer 2012

- Compatibility for iPhone/iPad/Android
  - Use a wider variety of mobile devices to conduct your inventory electronically
- Other updates to i-Tree Software suite

Using a GIS device

- Using GPS is optional
- Can use GPS-enabled devices that run on Windows Mobile 5.0 – 6.5 or other compatible devices paired with NMEA Bluetooth or serial GPS
- Trimble Juno SB, Trimble Nomad, Pharos Traveler 525 and MWg Zinc II have been used (Others are available as well)
- Streets may operate slightly differently on different devices

How to Install i-Tree

- Go to www.itreetools.org
- Create an account
- Can download program from site or request a CD
- Follow instructions to run the itree_setup.exe file.
- Select Streets or any other components you would like to download

GENERAL INFORMATION ON TREE INVENTORIES

Conducting an Inventory—General Steps

- Define inventory
- Prepare inventory for external device (or paper)
- Conduct inventory in the field
- Import data into i-Tree Streets and analyze data
- Quality check data from the field

Why conduct a tree inventory?

- Justify and leverage funds
- Highlight benefits to public & decision makers
- Plan, prioritize, and budget
- Increase work efficiency
- Benchmark progress
- Build partnerships

Inventory—first steps

- Consider how the inventory will be used
  - For management?
  - For planning?
  - For a specific project
- What is the scope of the inventory?
  - Complete, partial, sample
- Who will use it?
- Who will manage it?
  - Keep it updated
  - How often?

Inventories—Collection Methods

- **Electronic**
  - Standardize data collection
  - Quick
  - No need to re-enter data
  - Fewer mistakes
  - Equipment costs may be high
- **Paper**
  - Lower equipment cost
  - Easy to accommodate surveyors with low-technology
  - Need to enter information manually

What Information to Collect?

- Tree information
  - Tree ID, Species, DBH, size, location
- Site information
  - What type of site? Cutout, lawn, etc.
  - Land use—residential, commercial, etc.
- Global Information System (GIS) information—addresses or GPS
- Maintenance
  - Needs, tasks
- Pest information

How to Collect

- Hire professional
  - Grants may be available
- Trained Volunteers
  - State Urban & Community Forestry Program office may assist with training
- Tree Stewards
  - State Urban & Community Forestry Program office may assist with training

Trained Volunteer Data Collection

City of 60,000
20,000 Trees

3-5% Sample = 600-1,000 trees
4 min / tree = ~50 hrs

4 teams of 3 →
Two 6-hr days + 1 day training

Typical Resources Needed for Inventory

- Transportation
- Detailed street segment maps
- Project leader (create maps, manage/coordinate volunteers, data upload, quality control)
- Expertise:
  - ✓Minimal
  - ✓6-8 hrs training is adequate
  - ✓Tree ID knowledge desired
- Equipment:
  - ✓DBH tape (tree diameter) or equivalent (e.g., Biltmore stick)
  - ✓PDAs, Clipboard, GPS, etc.

Using volunteers

- Create a field guide for inventory-takers to use in the field
- Explain data fields
  - Identify terms with text and pictures
- Standardize assessment

GPS or non-GPS Inventory

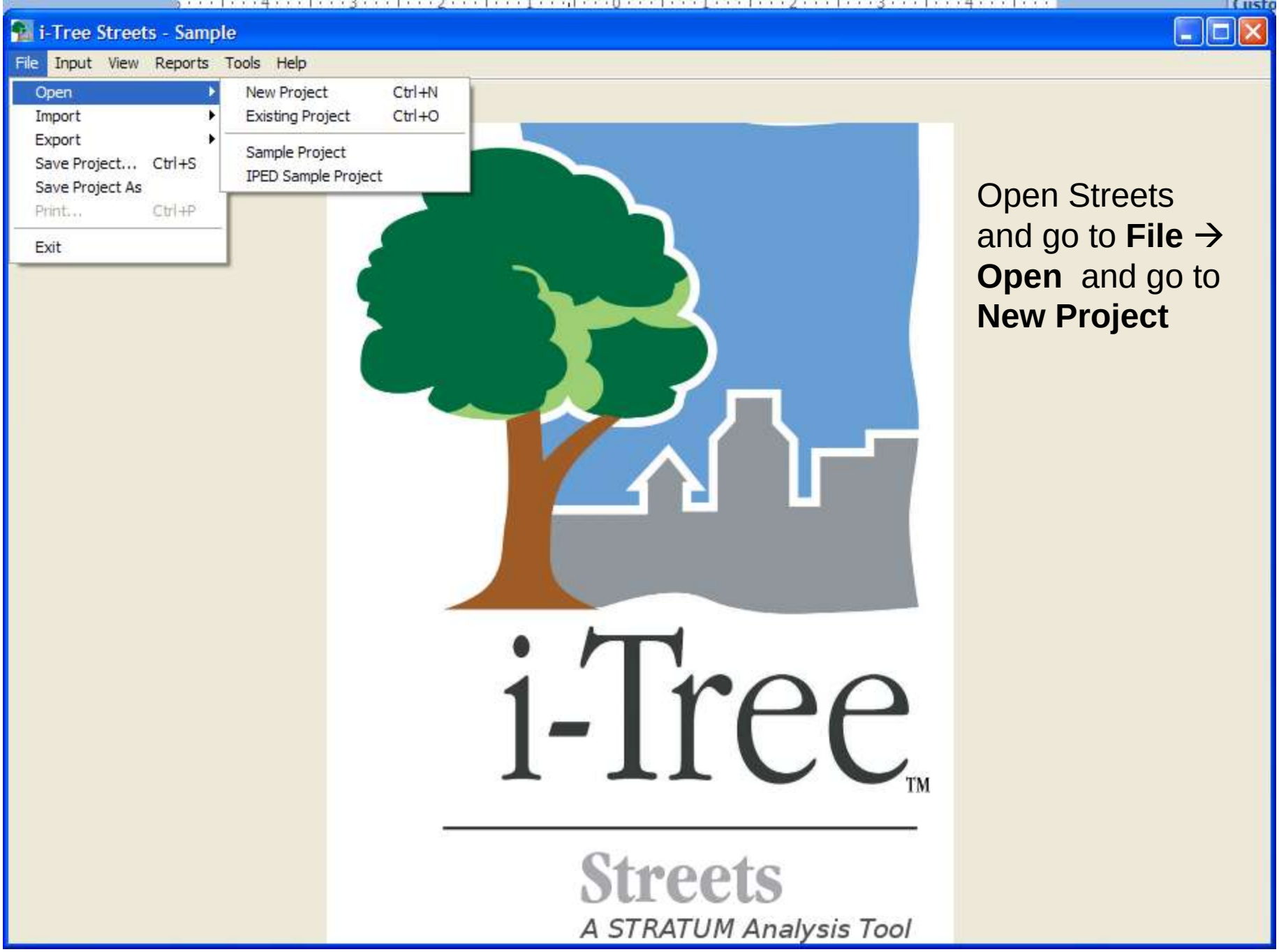
- Location information
  - Can use GPS (Global Positioning System)
    - ✓External bluetooth GPS unit
    - ✓Internal GPS
  - Can use addresses
- You may find that you don't need the specific tree point, but that the address will suffice
- In Streets, you can input GPS information or use addresses only

HOW TO SET UP YOUR INVENTORY ON DESKTOP

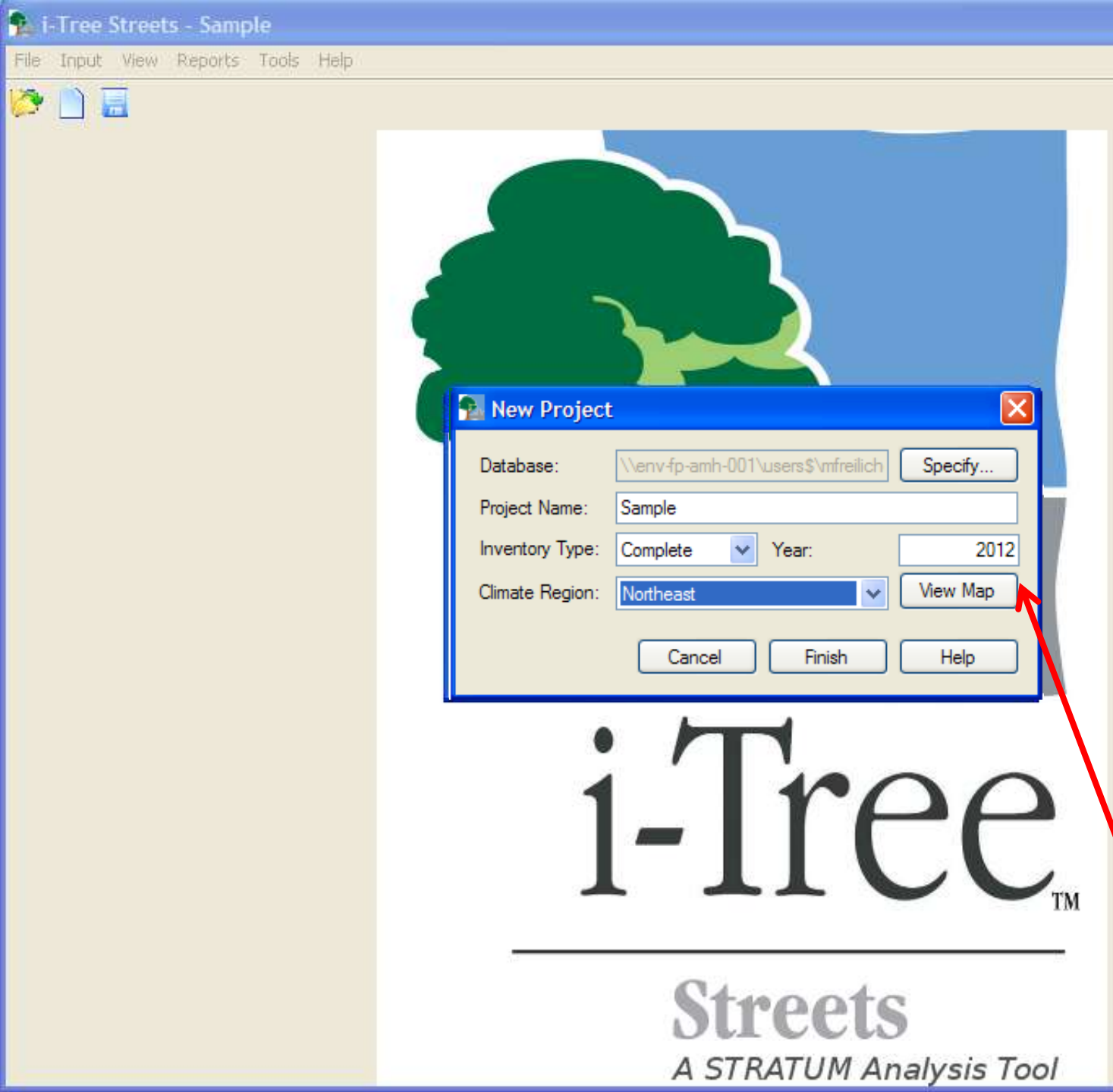
Streets User Manual

- Covers the steps for completing your inventory in four phases
- Pages 6-21 can help you set up the fields for your inventory
- www.itreetools.org → Resources → Manuals and Workbooks → i-Tree Streets
- Streets has a pre-loaded sample project **File→Open→Sample Project** that you can work with to familiarize yourself with Streets

i-Tree



Open Streets and go to **File** → **Open** and go to **New Project**



For a new project click **Specify → Create New** and enter the name of your project

Name your project

Choose Inventory Type

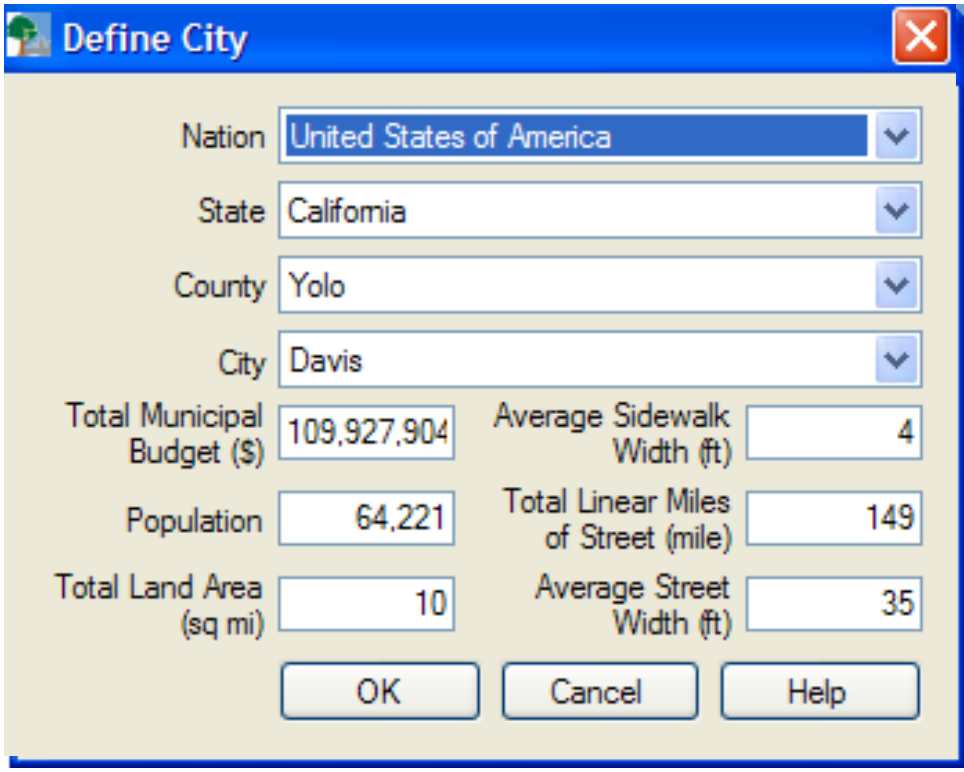
Select Climate Region (View map if unsure)

Climate Map

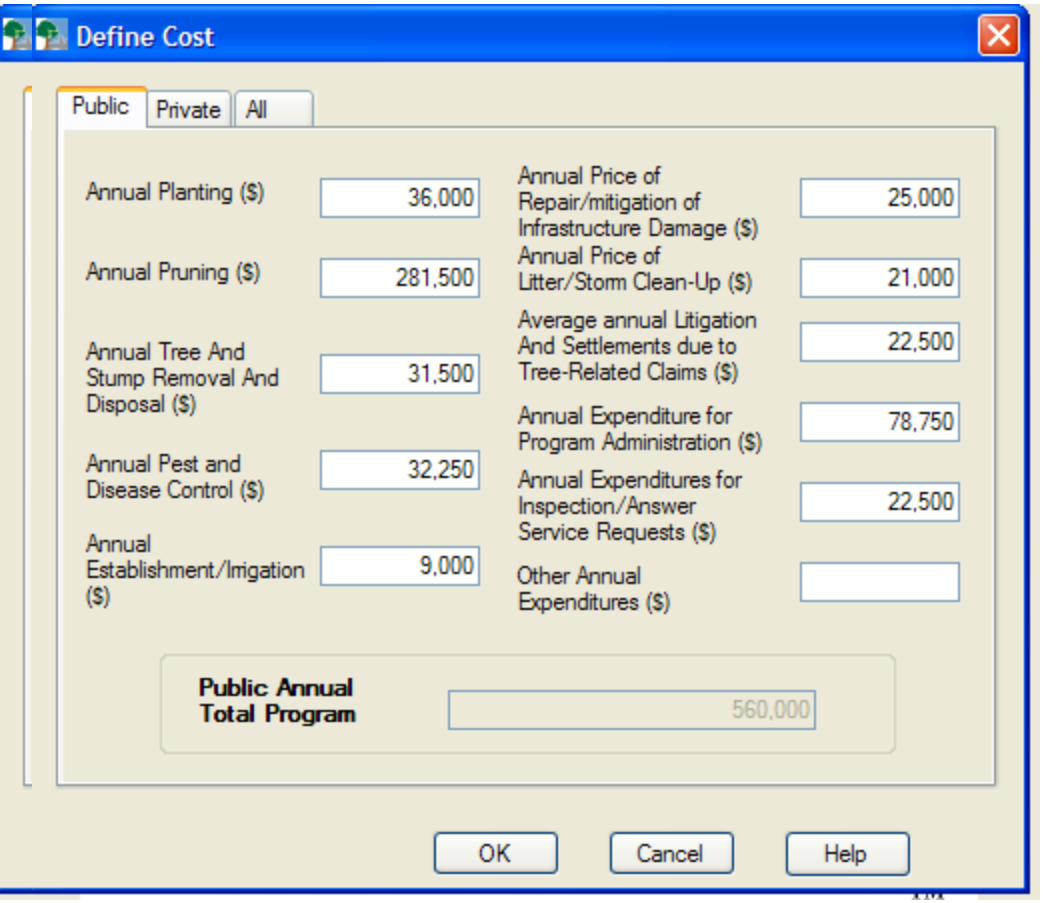

i-Tree Streets Climate Zones
Seattle
Tacoma
Spokane
Longview
Portland
Missoula
Bismarck
Duluth
Fargo
Minneapolis
Green Bay
Augusta
Berlin
Montpelier
Portland
Boise
Cody
Wall
Sioux Falls
Milwaukee
Grand Rapids
Flint
Rochester
Buffalo
Syracuse
Worcester
Springfield
Boston
Hartford
Providence
New Haven
Madison
Detroit
Cleveland
Queens
New York
Philadelphia
Reno
Berkeley
Salt Lake City
Fort Collins
Omaha
Des Moines
Rockford
Chicago
Toledo
Akron
Pittsburgh
Fort Wayne
Indianapolis
Columbus
Baltimore
Lincoln
Dayton
San Francisco
Modesto
Fresno
Denver
Colorado Springs
Kansas City
St. Louis
Louisville
Cincinnati
Charleston
Richmond
Norfolk
Bakersfield
Las Vegas
Wichita
Evansville
Lexington
Springfield
Greensboro
Durham
Raleigh
Oxnard
Santa Monica
Claremont
Glendale
Albuquerque
Amarillo
Oklahoma City
Tulsa
Nashville
Chattanooga
Knoxville
Memphis
Charlotte
San Diego
Little Rock
Huntsville
Atlanta
Charleston
Lubbock
Birmingham
Dallas
Jackson
Columbus
Savannah
Montgomery
Tucson
El Paso
Shreveport
Mobile
Jacksonville
Tallahassee
Austin
Houston
Baton Rouge
New Orleans
Orlando
San Antonio
Tampa
Corpus Christi
Fort Lauderdale
Miami
Reference Cities
Climate Zones
North
Interior West
Temperate Interior West
Pacific Northwest
Inland Valleys
Southwest Desert
Southern California Coast
Northern California Coast
Inland Empire
Tropical
Central Florida
Coastal Plain
South
Northeast
Lower Midwest
Midwest
Anchorage
Juneau
San Juan
Honolulu

Define City

- Must enter Nation, State, County, City
- Can enter other information later
- Simply go back to **Input→City Information**



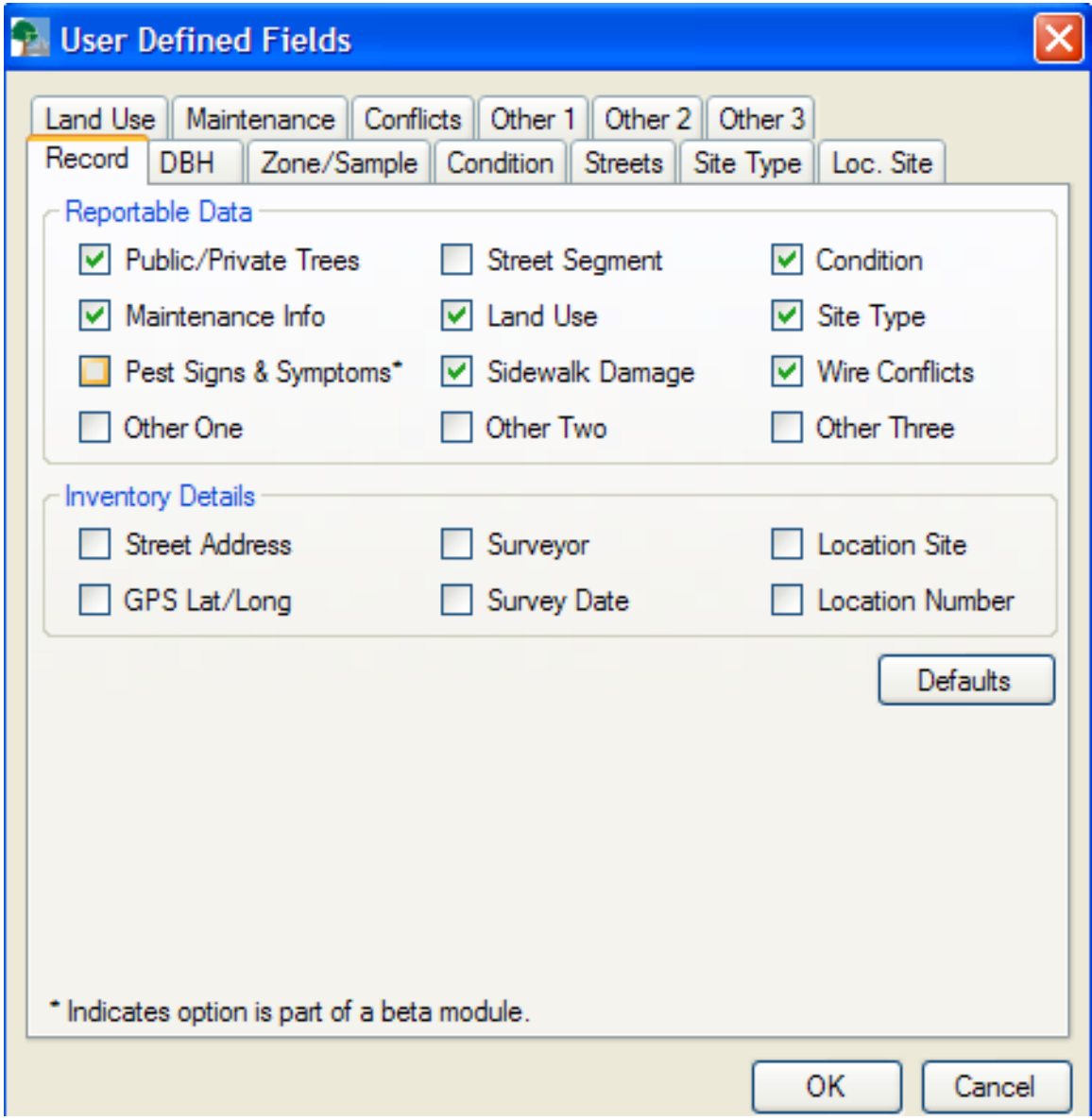
Define Cost



- Can enter this information now or return to it later
- **Input→Annual Costs**

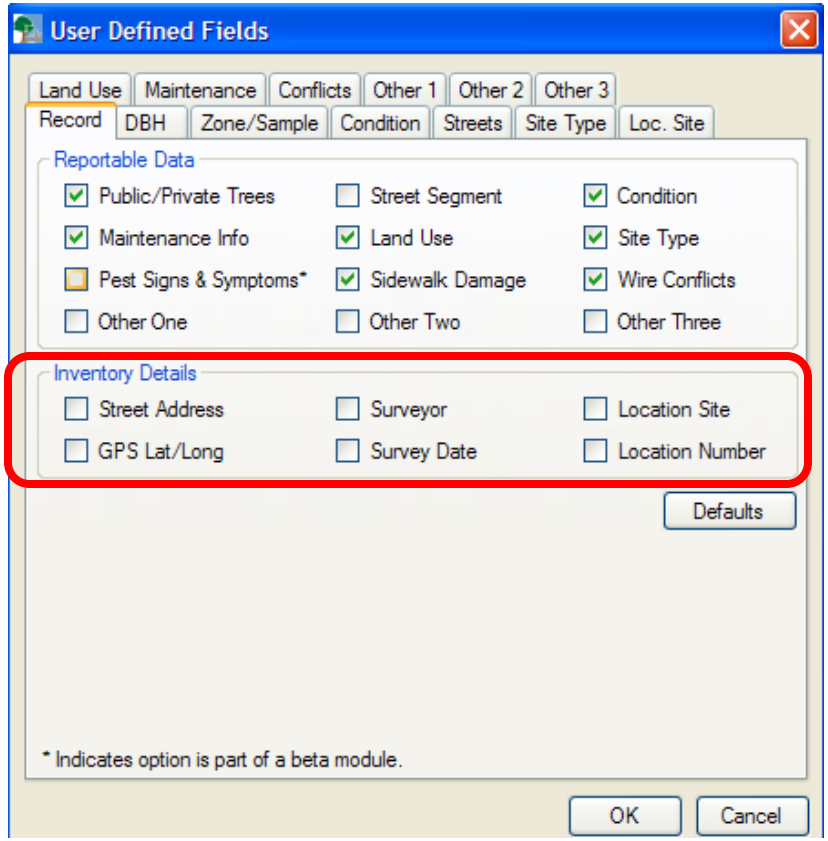
Data Fields

- Customize fields for your inventory for your external device
- Under **Records**, check boxes for fields you want to include
- Some are checked by default



Inventory Details

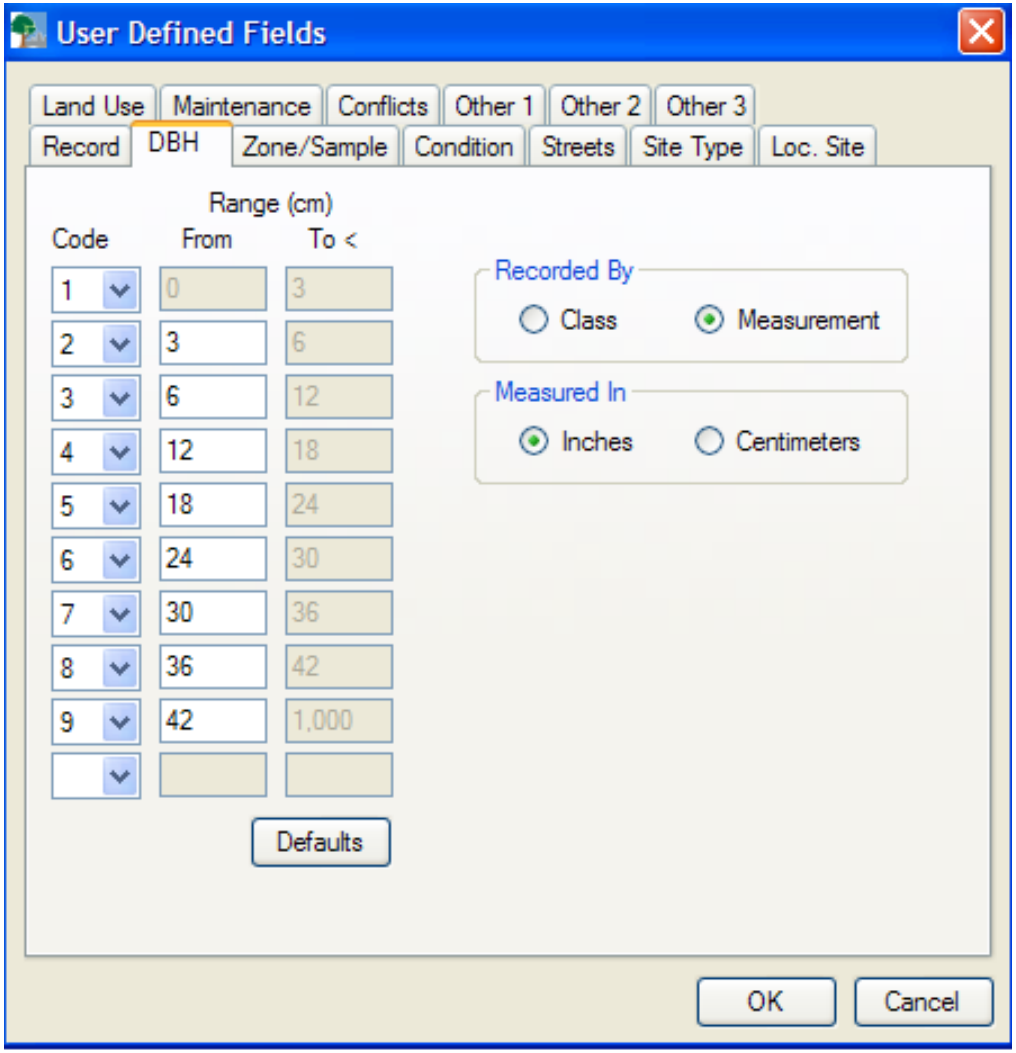
- Location info: **Street address** or **GPS**
- Can require login for **surveyor** and **date**
- **Location site**—more specific location information (right, left, front…)
- **Location number**—can distinguish between multiple trees at the same address



If you ever want to return to default values after you have made changes, simply hit the **Defaults** button

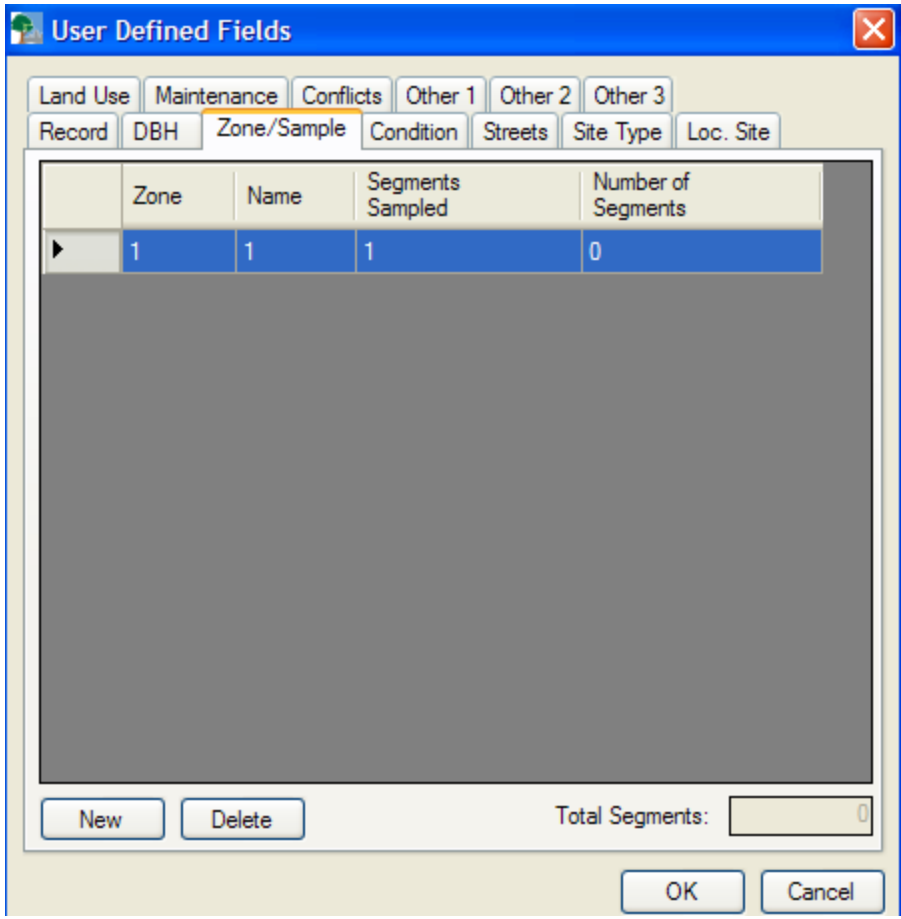
Reportable Data--DBH

- DBH—record by class or specific measurement
- Inches or centimeters

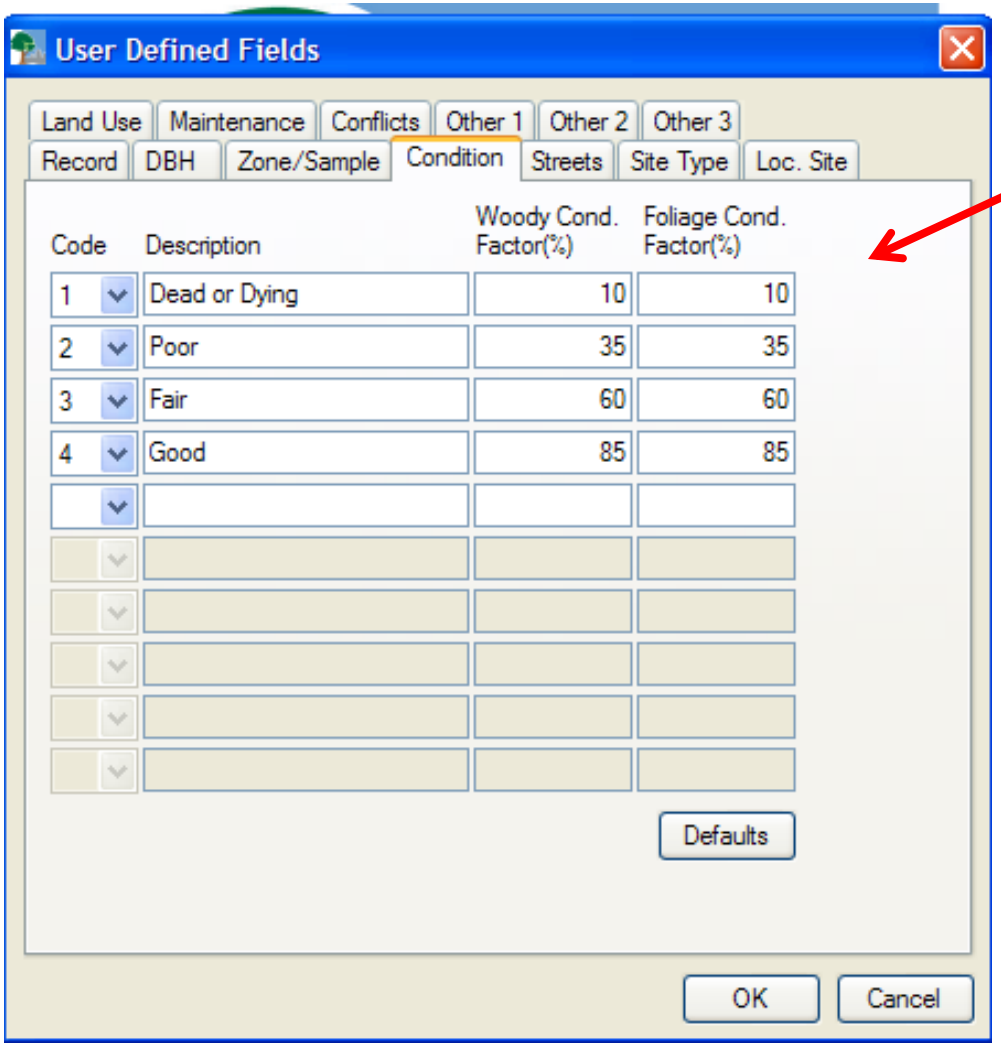


Reportable Data—Zone/Sample

- If you are doing a complete inventory, this field will look like this
- You can enter neighborhoods into the Name field under Zone/Sample
- Otherwise, you will enter information for your sample inventory
- (We will not cover sample inventories here)



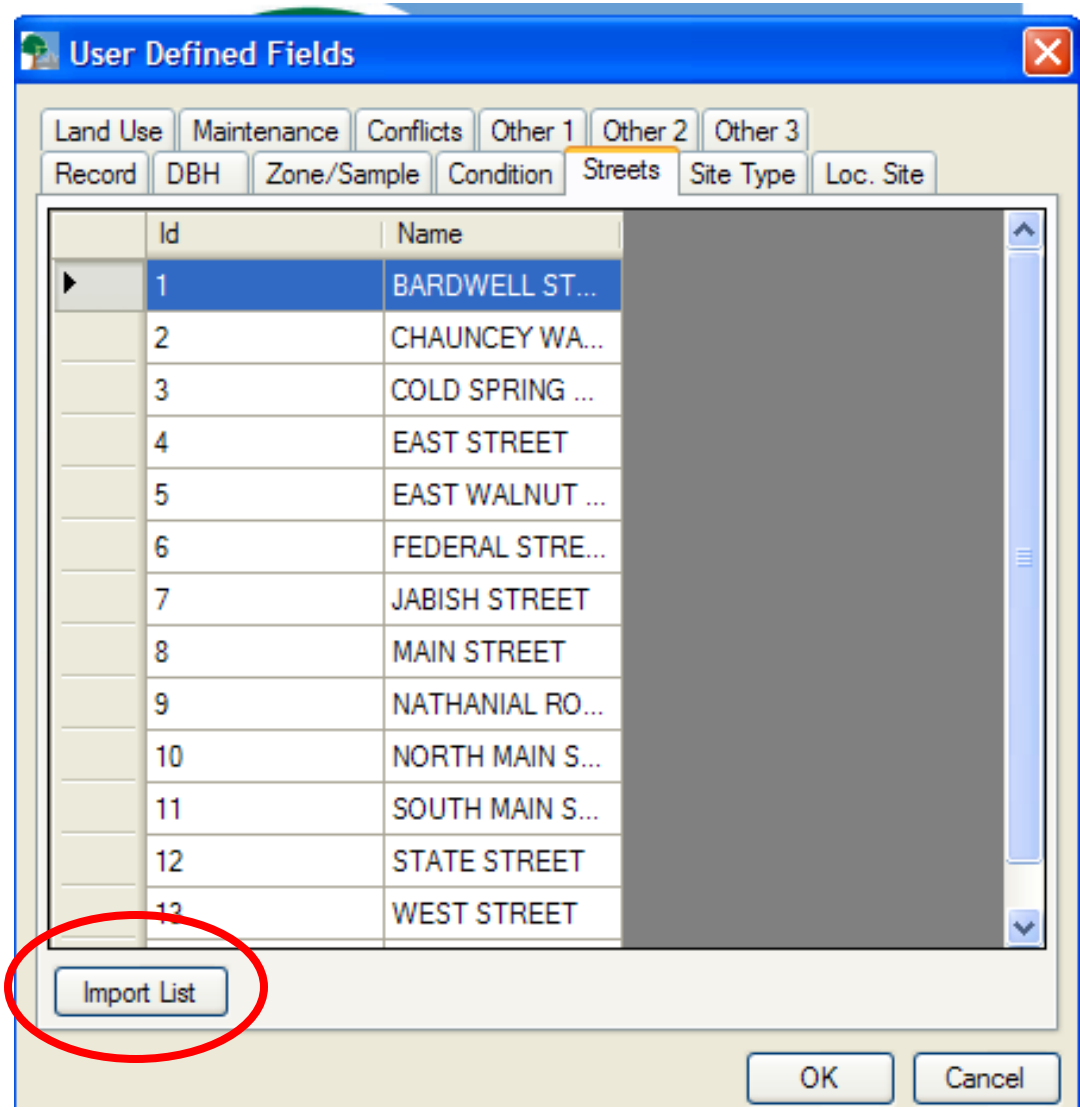
Reportable Data—Condition



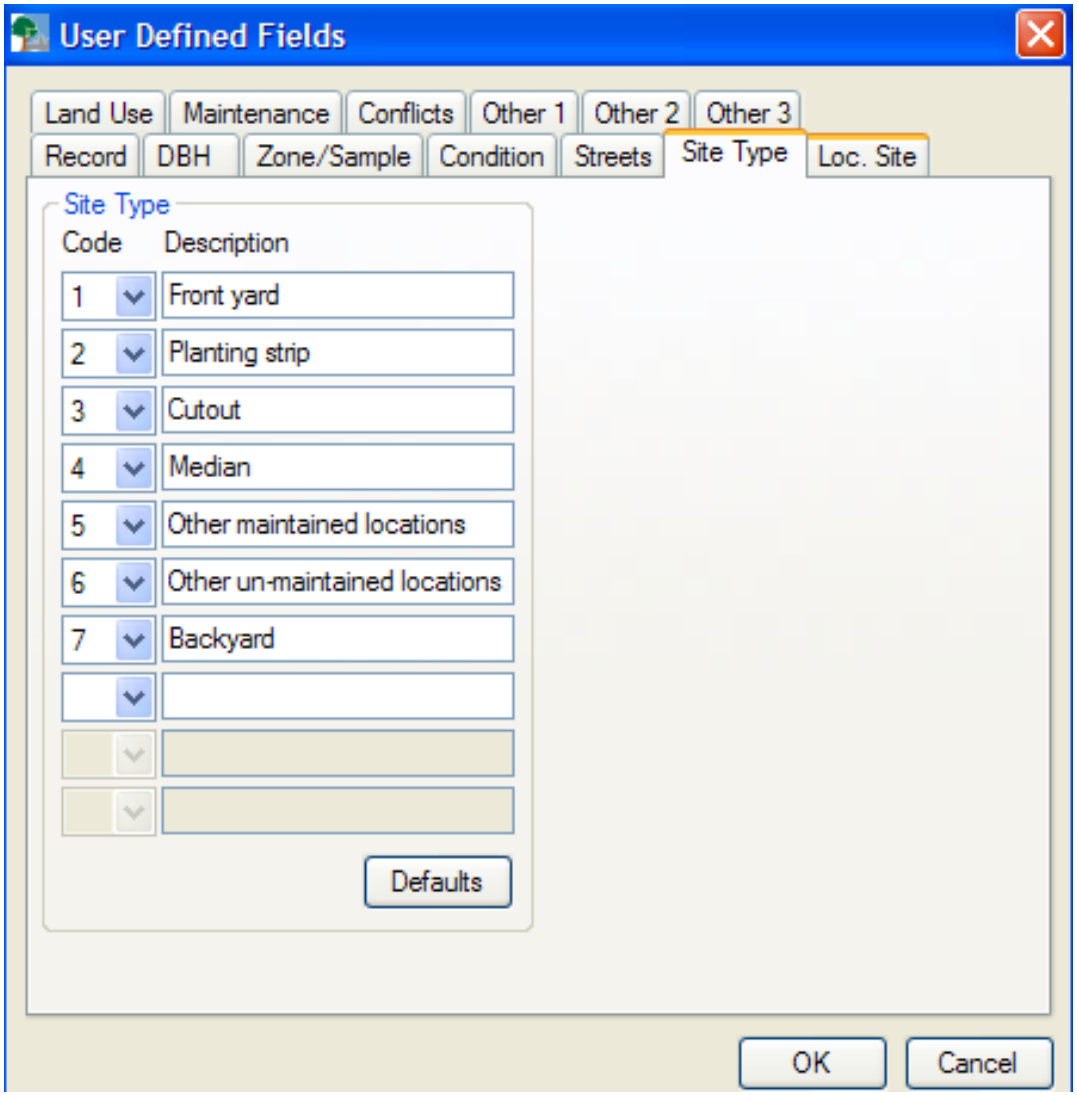
- Can use the defaults
- Or customize
- The numbers represent the Replacement Factor Percent, a number used in calculating the replacement value of trees

Reportable Data—Streets

- Import list of streets in .txt file from Microsoft Excel
- Be sure to alphabetize your list before you import



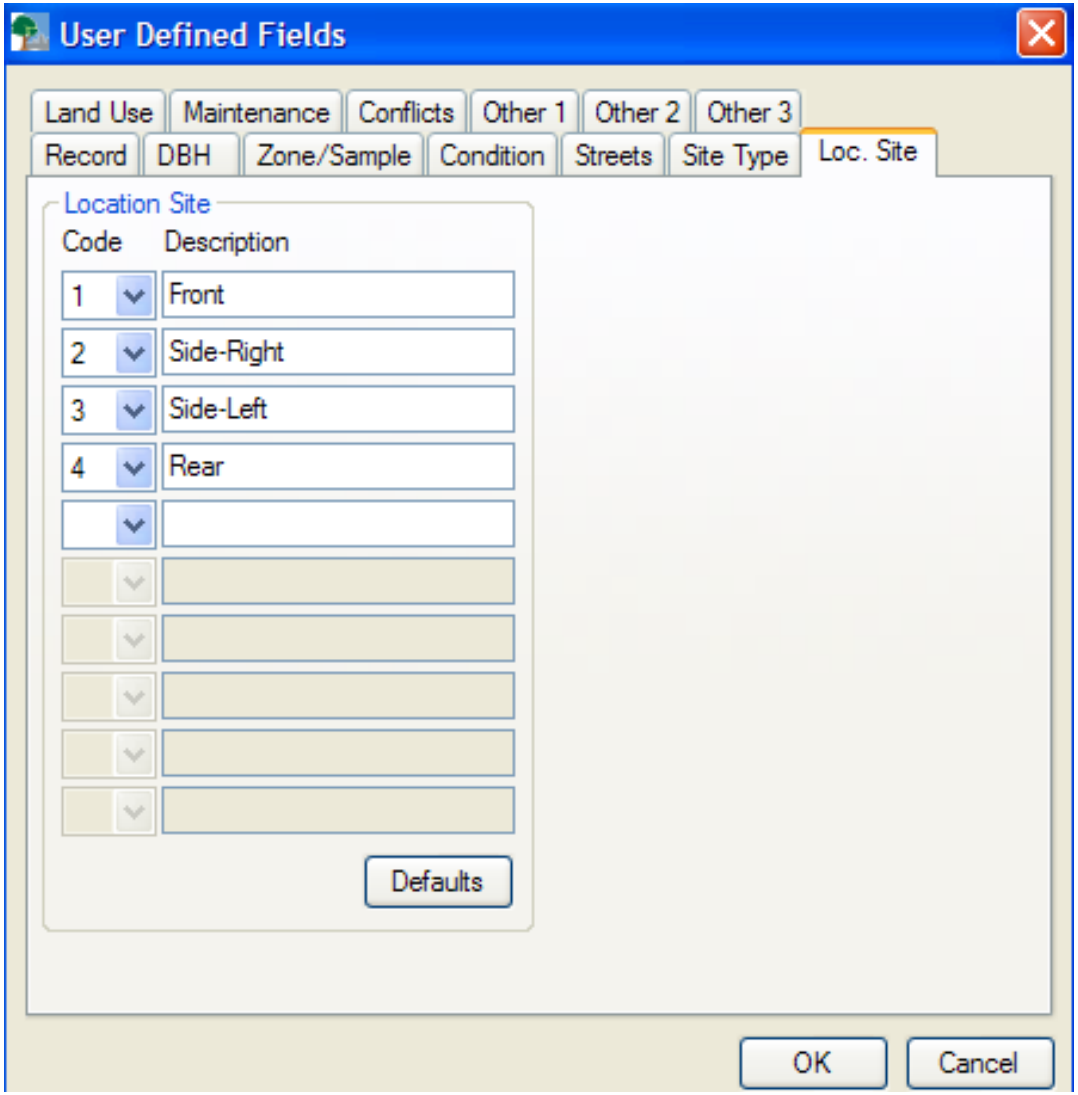
Reportable Data—Site Type



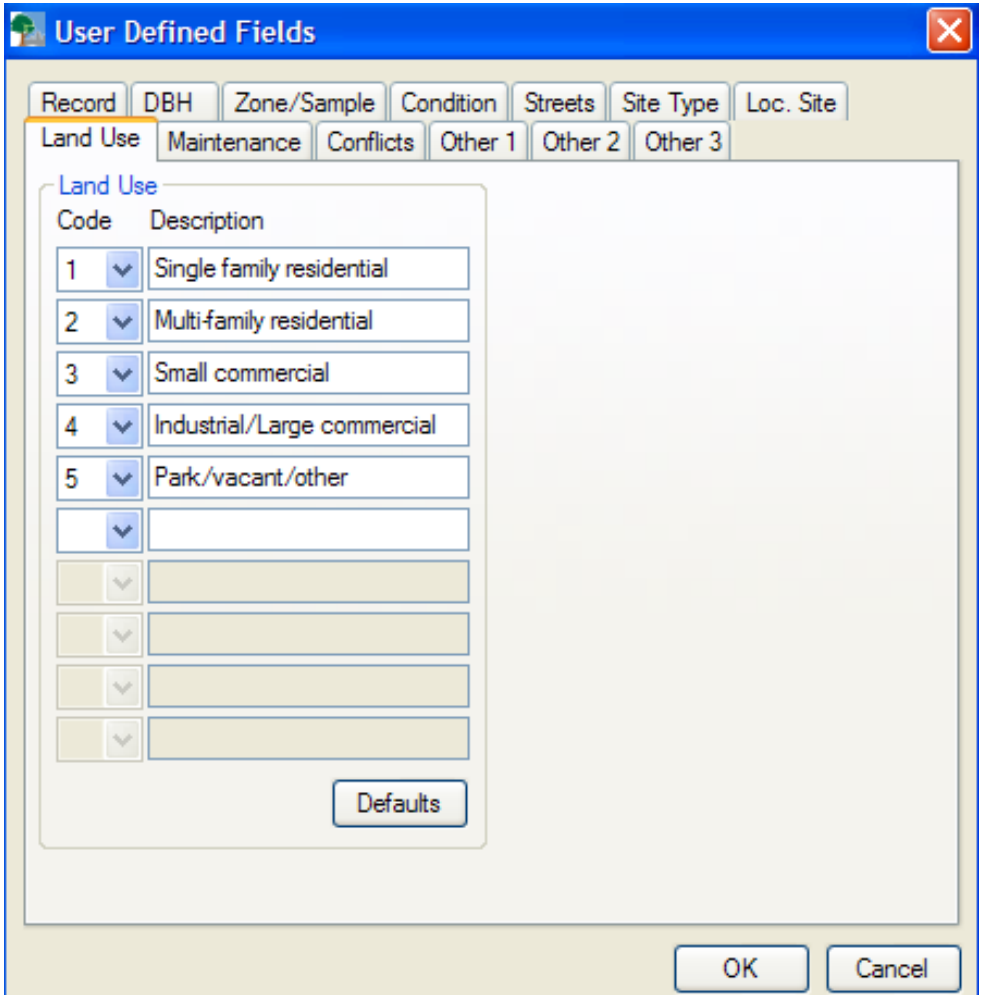
- Default list available
- The immediate area where the tree is planted
- Modify to include other areas…raised planter, lawn, etc.

Reportable Data—Loc. Site

- Specific location descriptors
- Optional



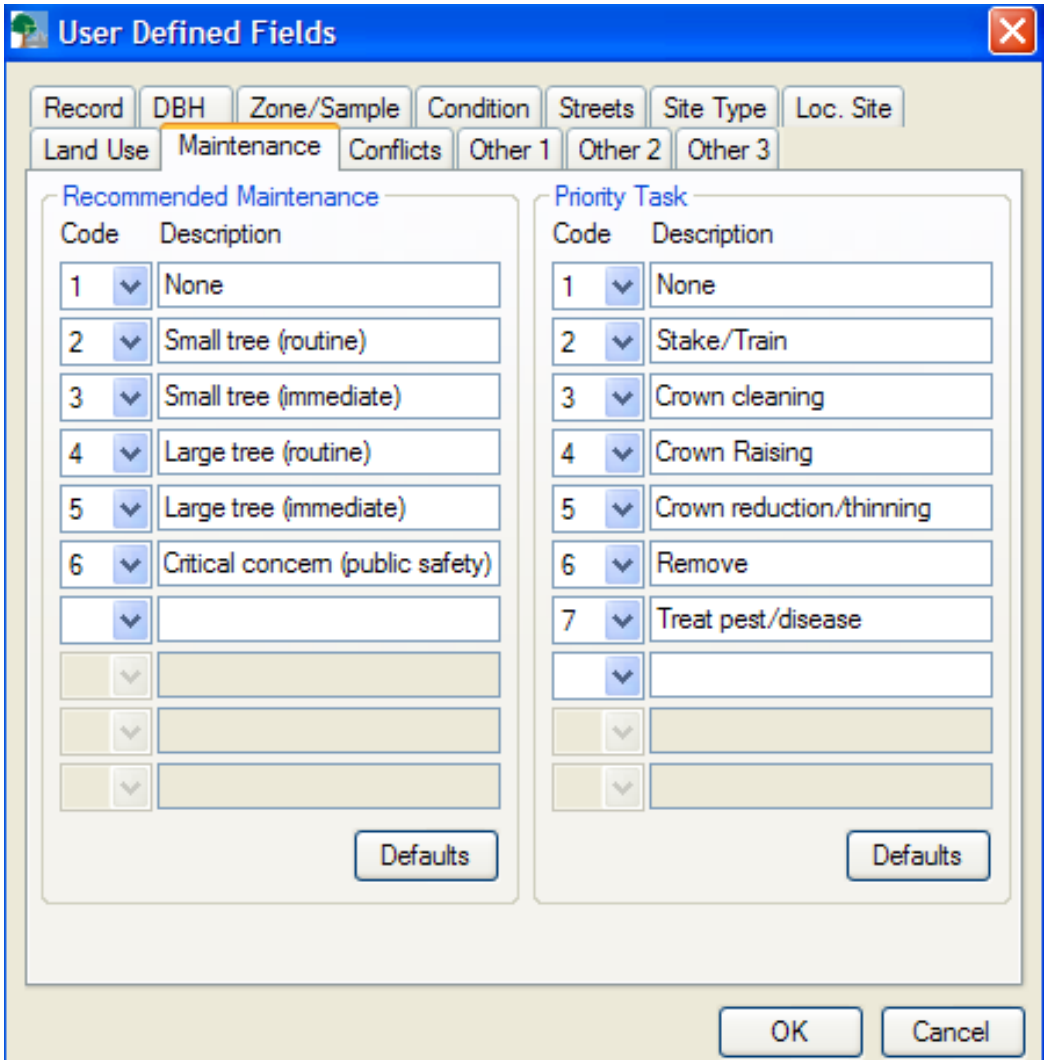
Reportable Data—Land Use



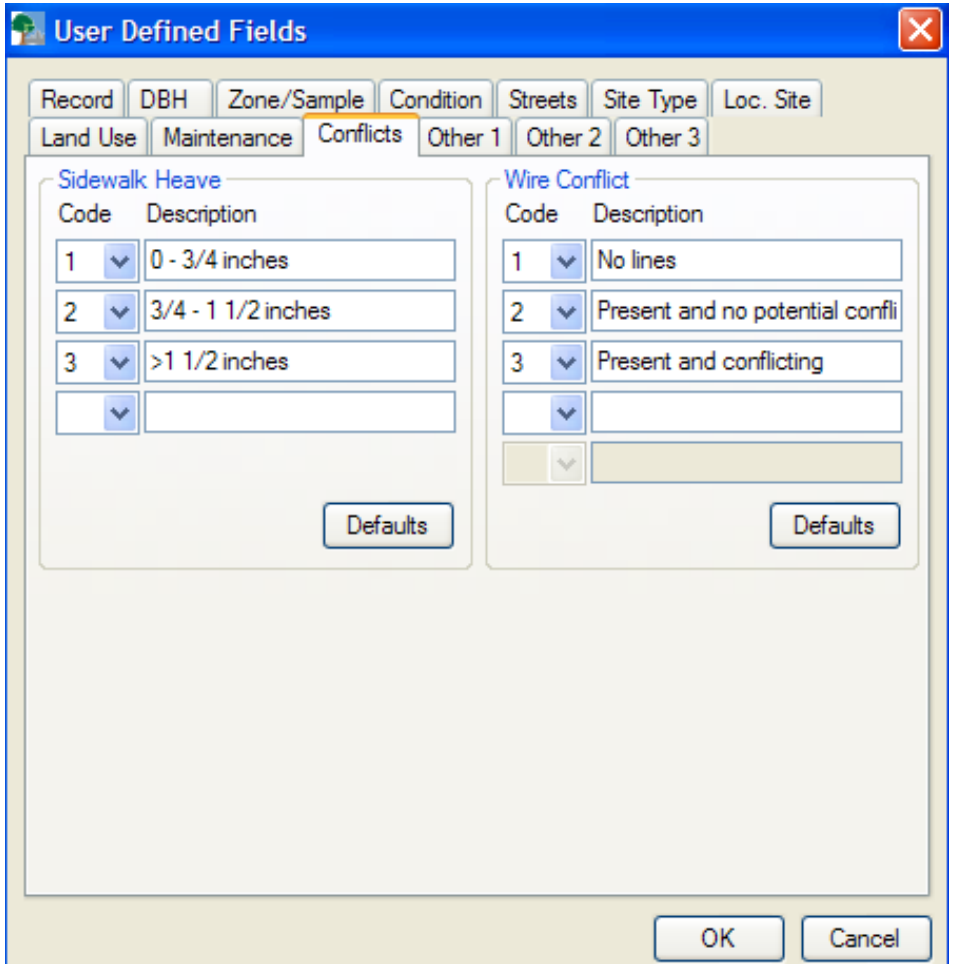
- Defaults available
- Customize to meet your needs
- Modify existing fields and add new ones—"town common," "park," "downtown"

Reportable Data--Maintenance

- Recommended maintenance
  - General
- Priority Tasks
  - Specific tasks
- Use Defaults or modify



Reportable Data—Conflicts



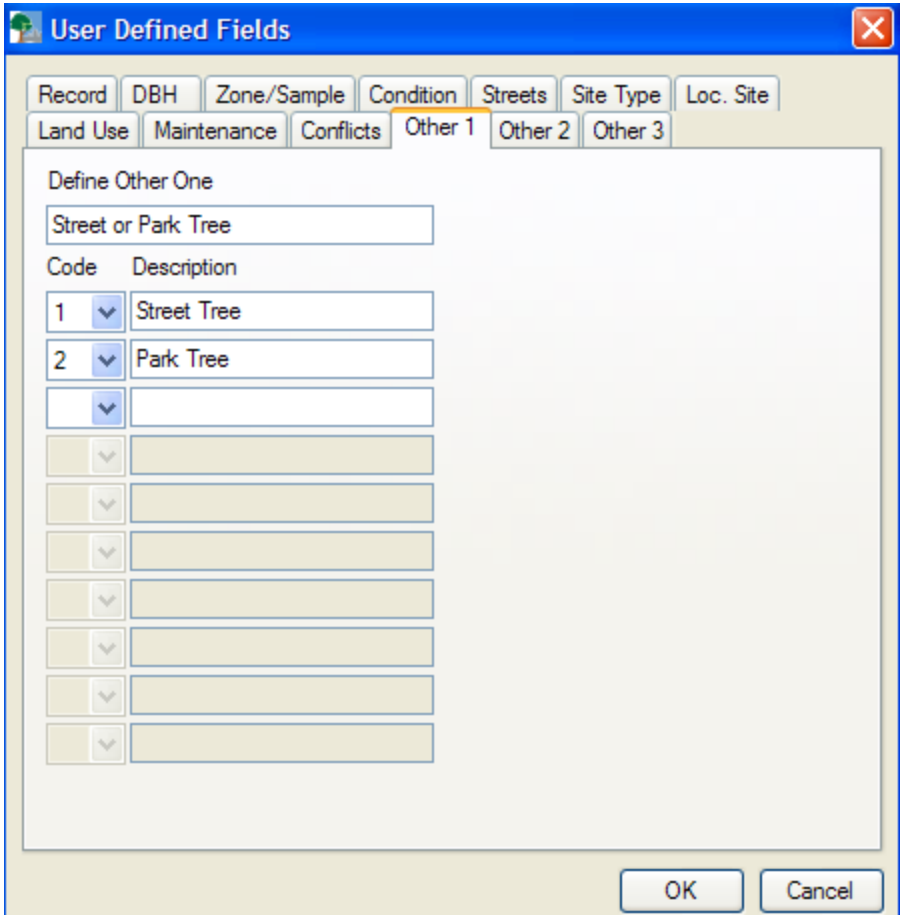
- Default values
- Sidewalk Heave
- Wire Conflicts
- Can modify as needed

Reportable Data—Other1, 2, 3

- There are 3 additional categories that are completely open and customizable.
- If you clicked Other One, Two, or Three on the main record screen, you will be able to enter the additional Fields
- For example, if you wanted to collect whether a tree was a street or park tree for your inventory, you could do that in the **Other** field

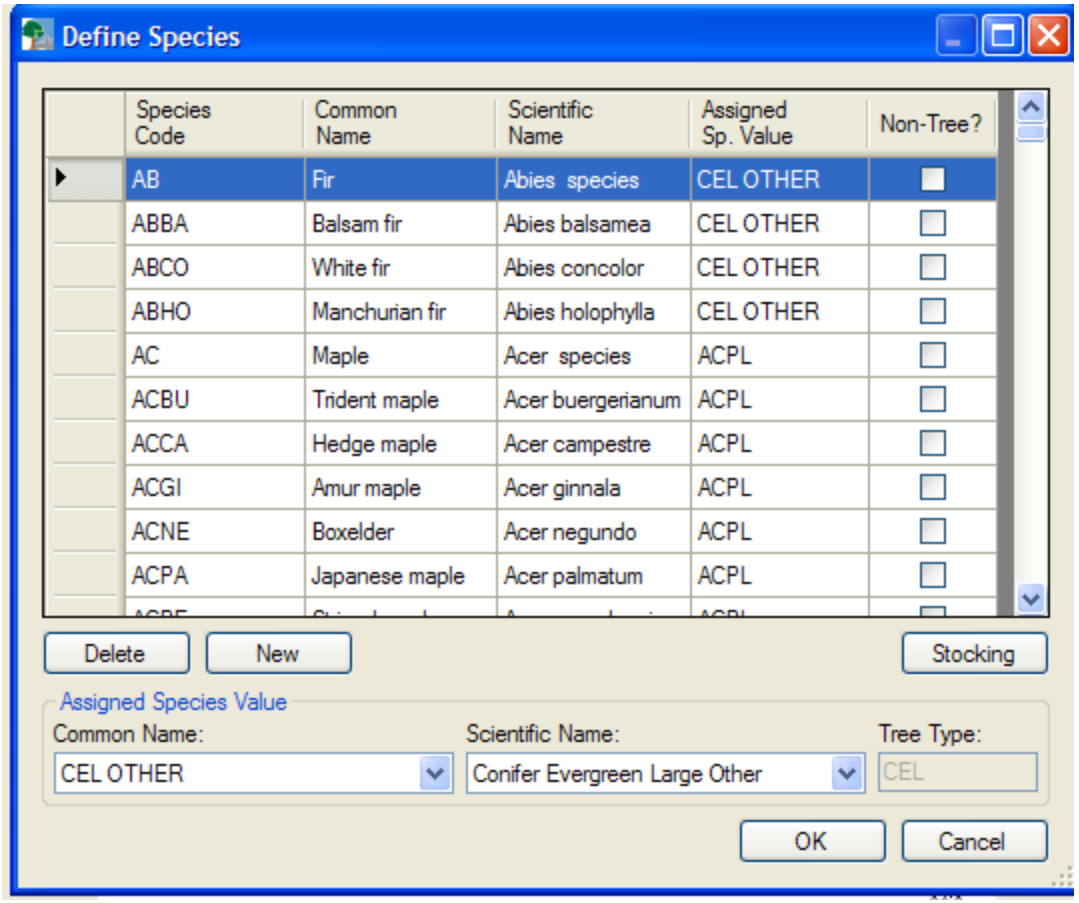
Reportable Data—Other One

- Sample **Other** field with Street or Park tree option
- Include additional maintenance or other information



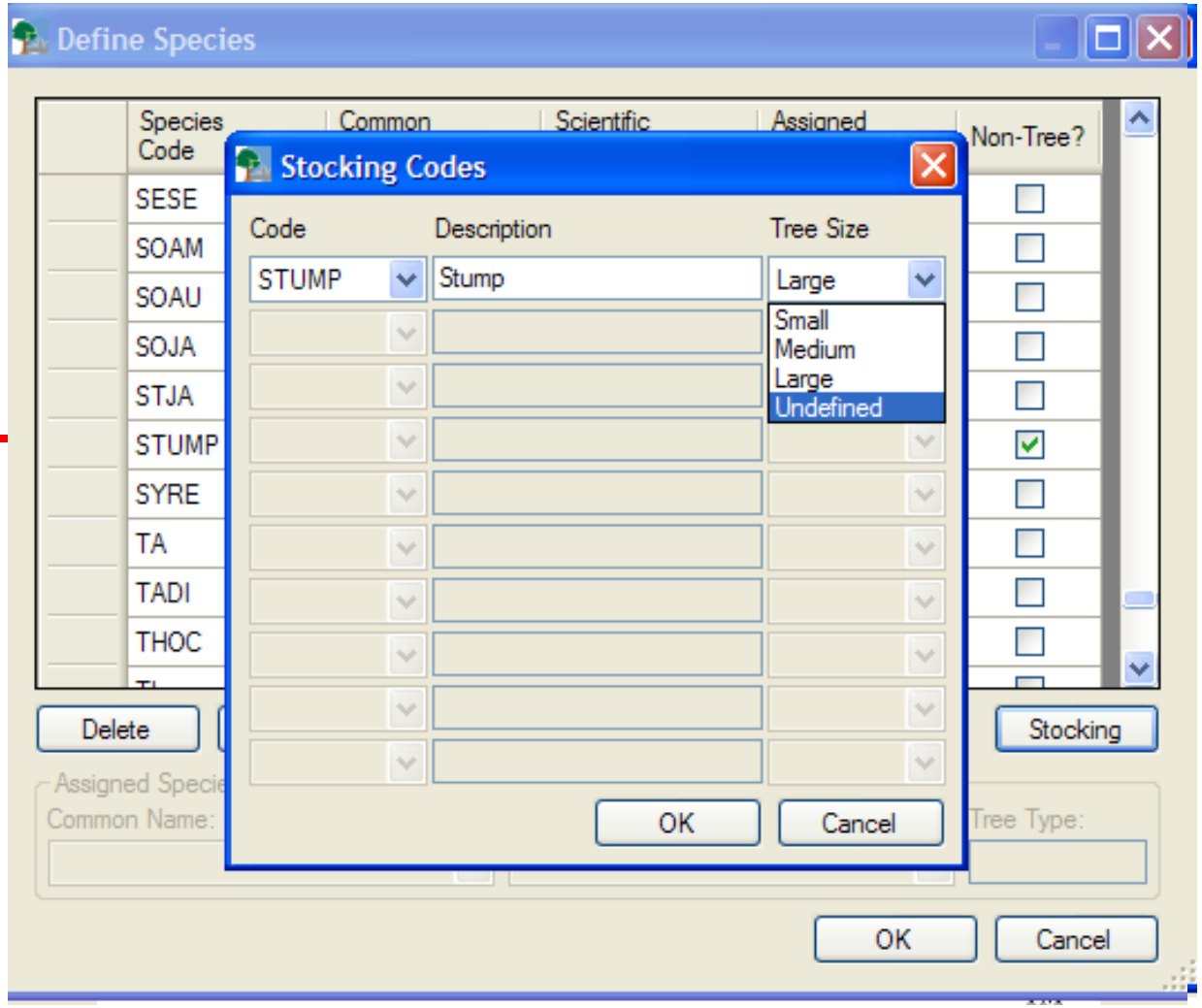
Species Information

- Go to **Input** → **Species** and you can customize species
- i-Tree will have species by default that were selected for the climate region
- Include other species not on the list or include **non-tree** items for stocking

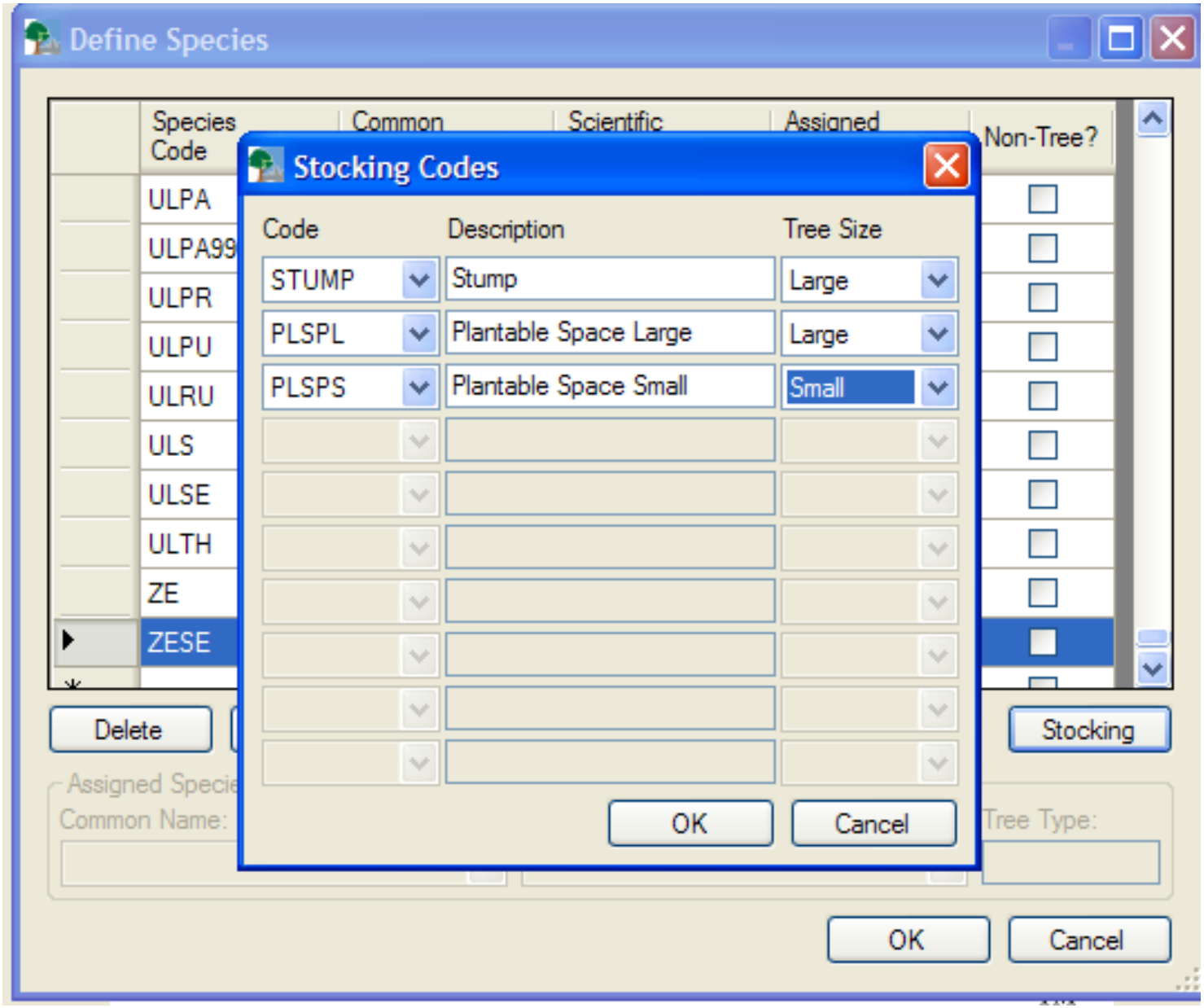


Species—Non-Tree items

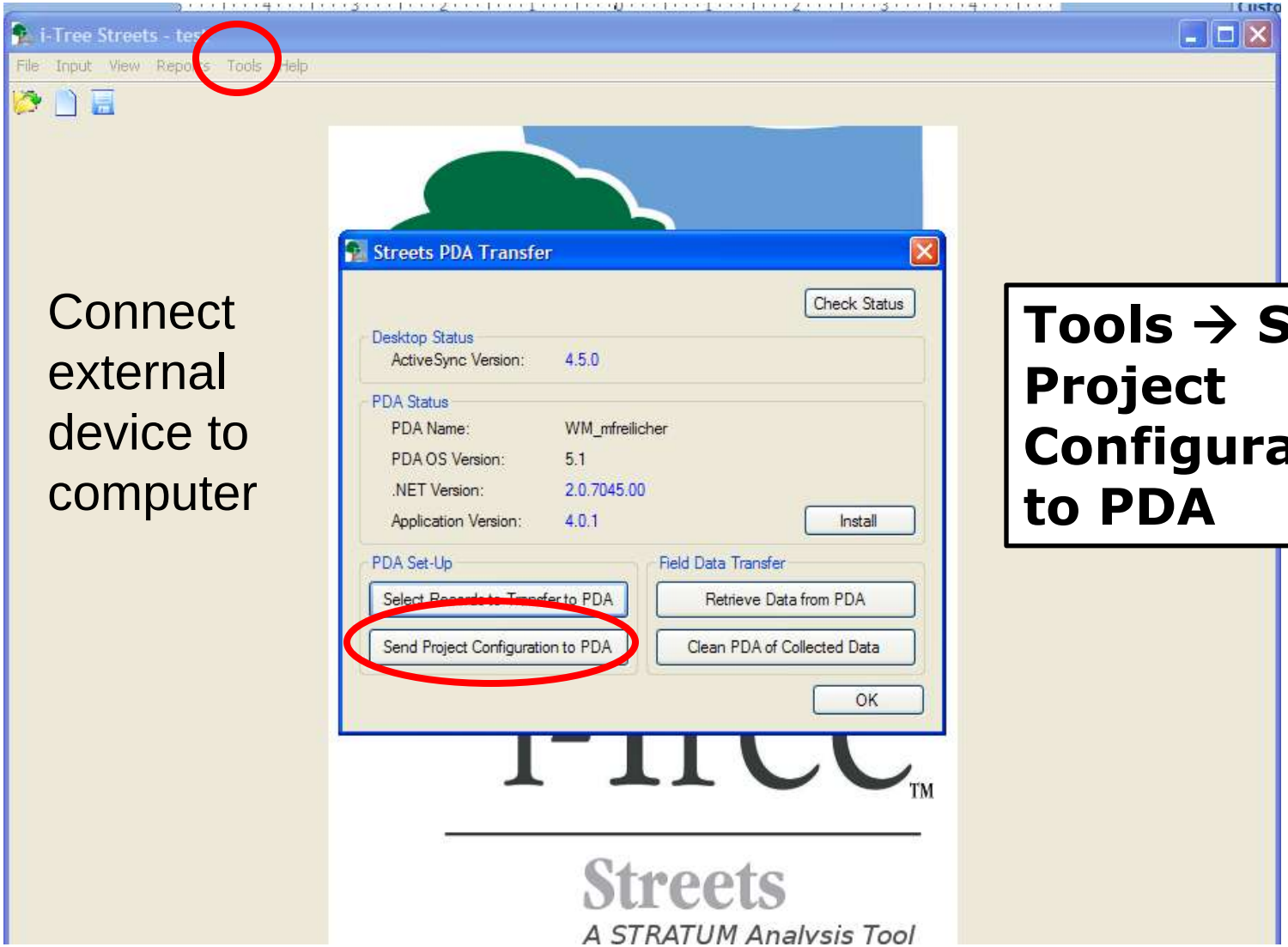
- Click **New** to add the non-tree
- Type the code, STUMP, in this case
- Then check the **Non-Tree box** and click **Stocking**
- Select the code, describe it and include an appropriate new tree size if applicable



Species—Non-Trees



Export project to external device



Connect external device to computer

Tools → Send Project Configuration to PDA

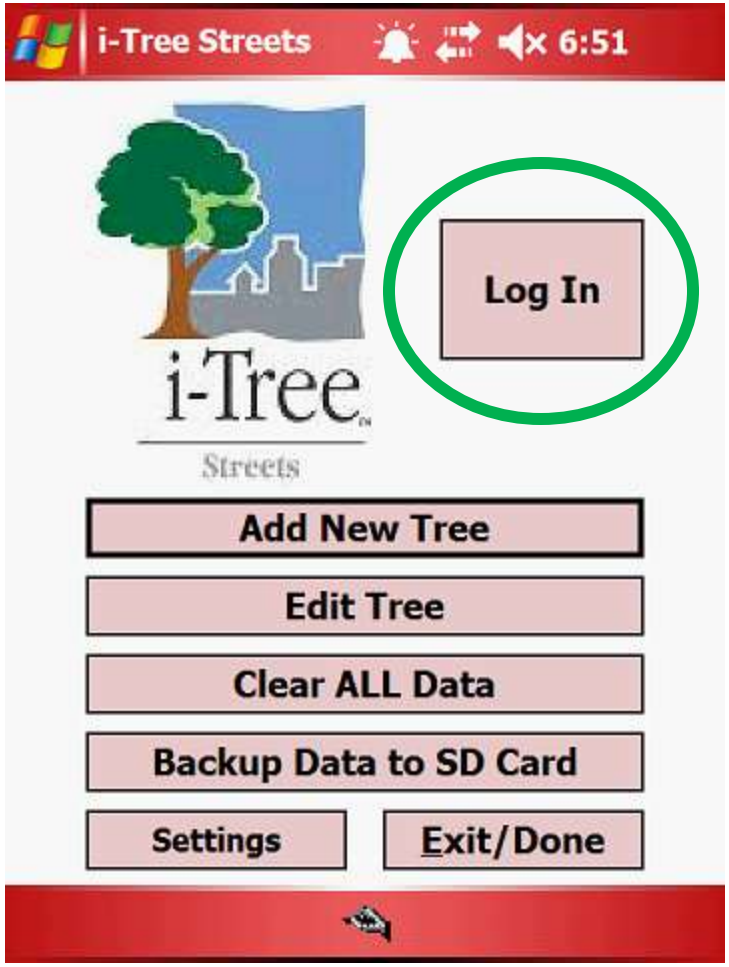
USING I-TREE STREETS WITH A PDA OR EXTERNAL DEVICE

Once you've configured your project

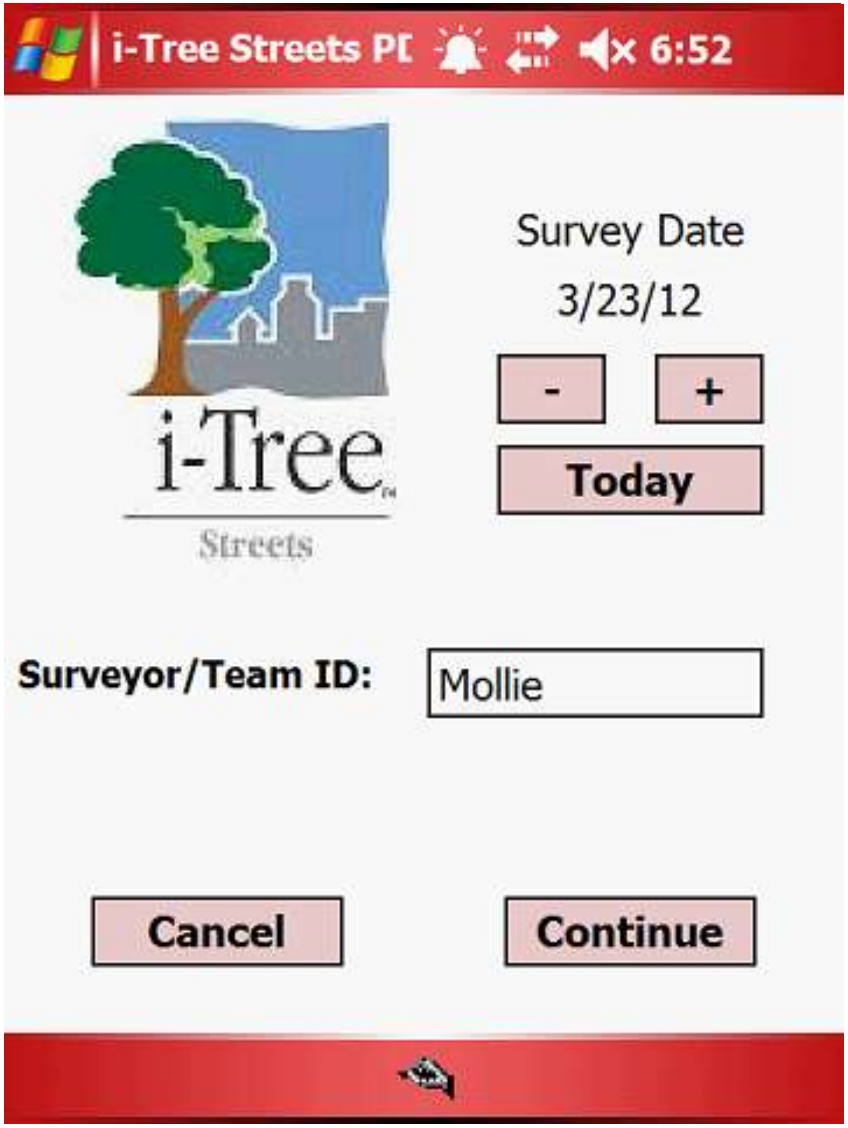
- You are now ready to go out in the field with your device
- Now what!?
- Make sure your batteries are charged, you have plenty of food and water, maps, field guide, tree ID books, whatever you need and head out

Working with your external device

- Main screen
- If you selected a requirement to log in, log in at this time



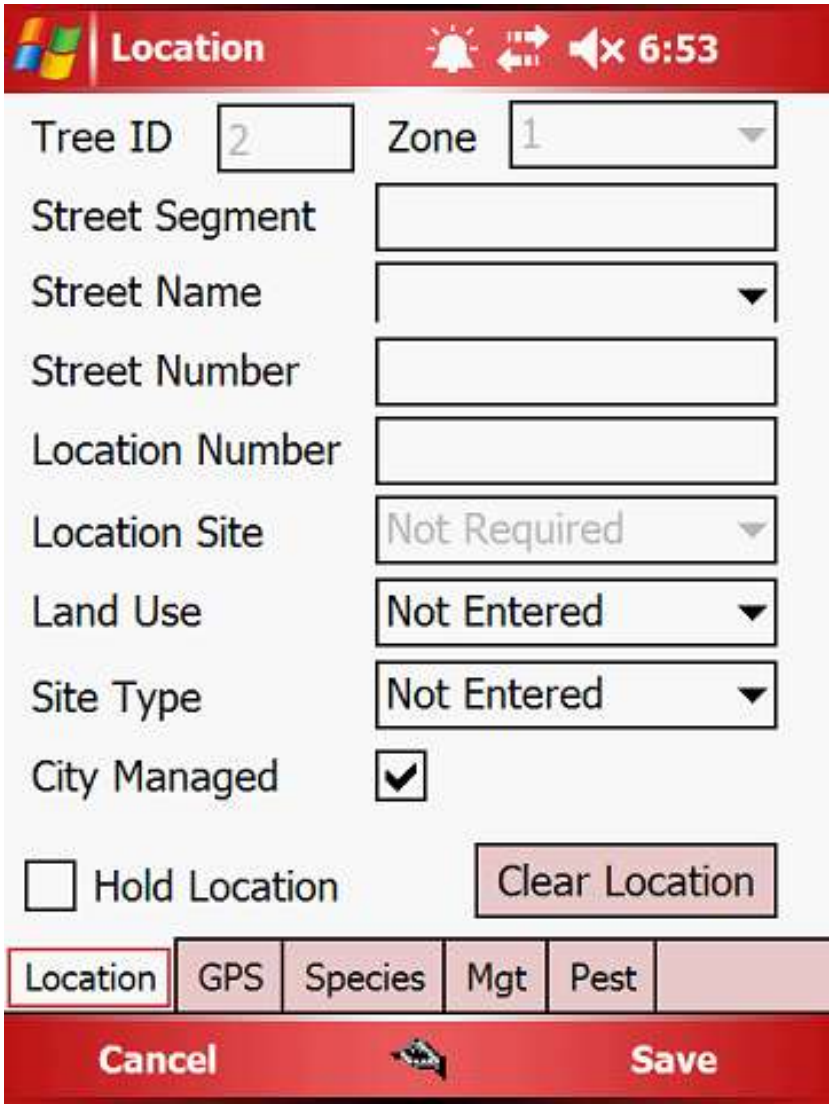
Log In



- Enter name or Team ID
- Can adjust the date if necessary

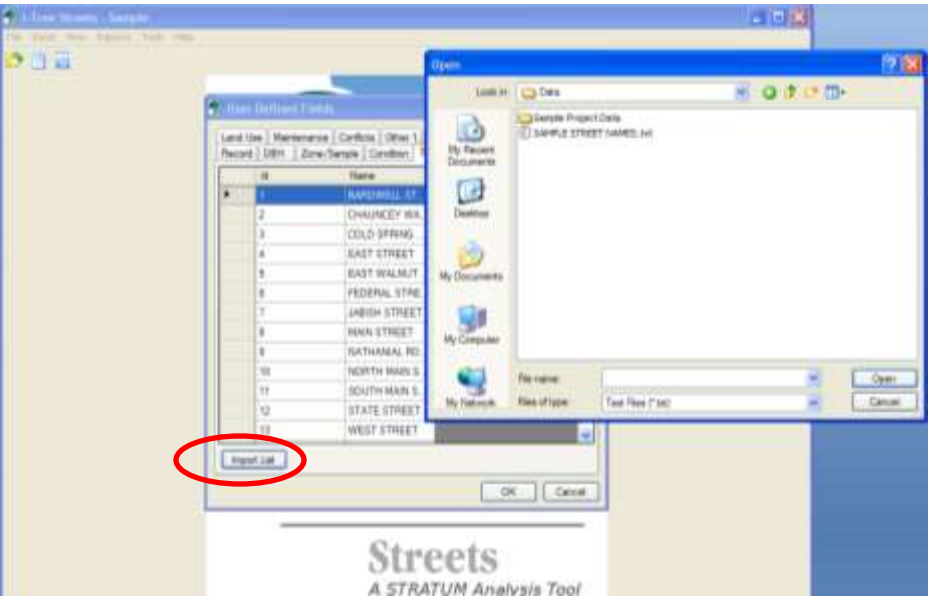
Tree Information

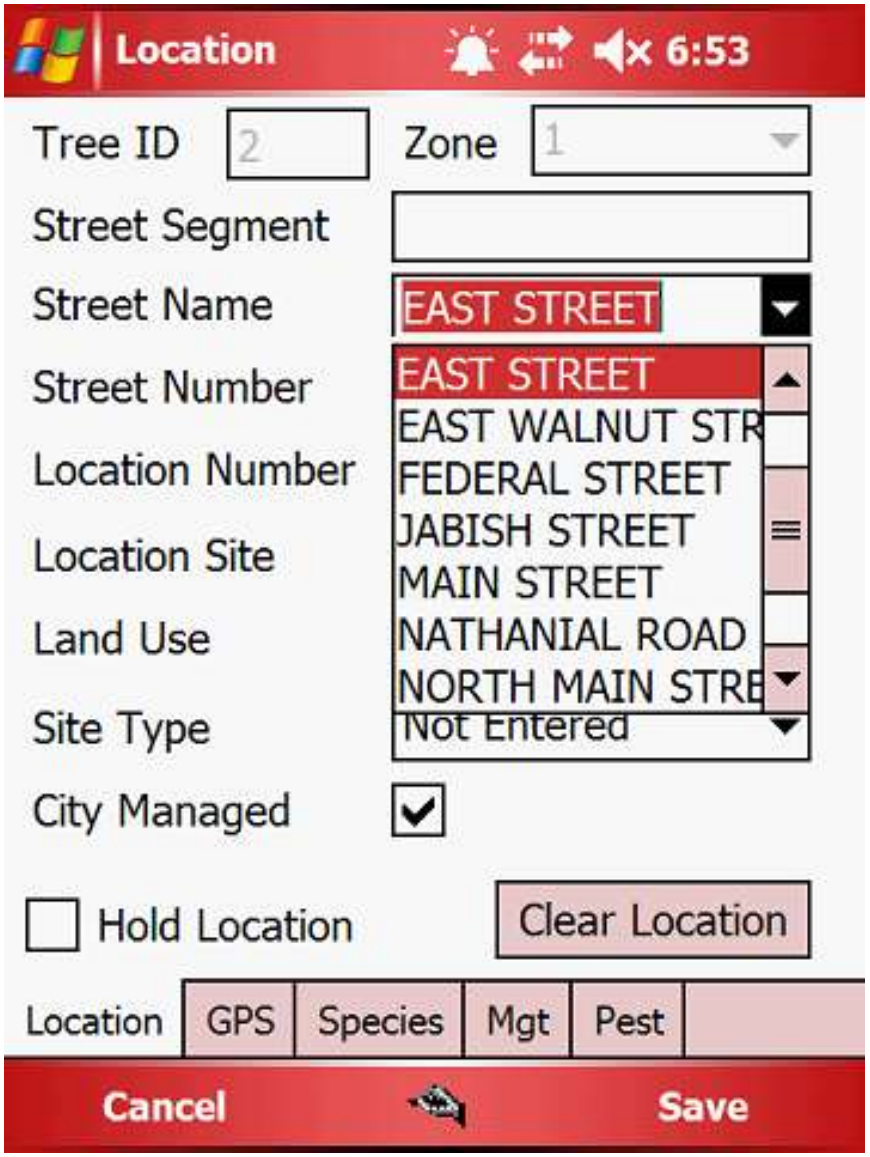
- Tabs at bottom to navigate through tree information
- Location
- GPS
- Species
- Management
- Pest



Select Street

- Import street list into desktop for a drop-down street list (.txt file)



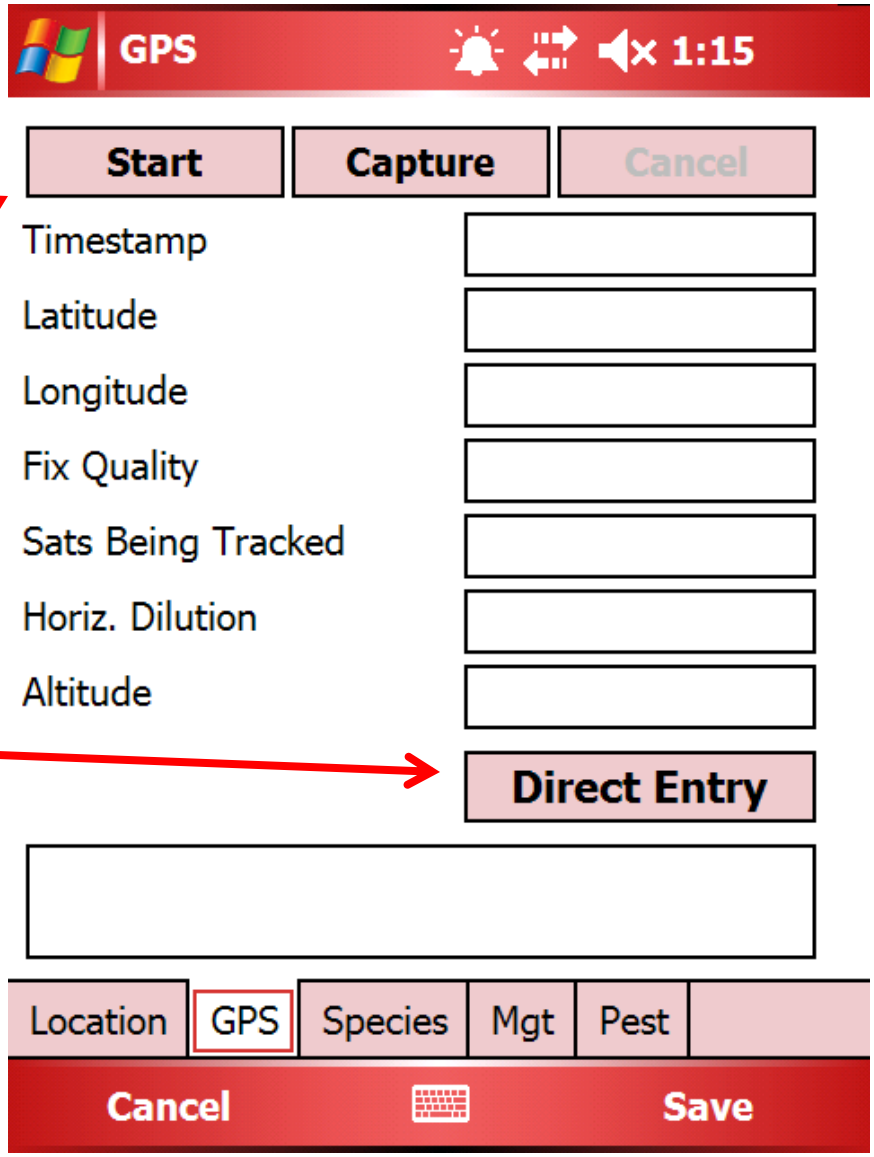


Location and Site Information

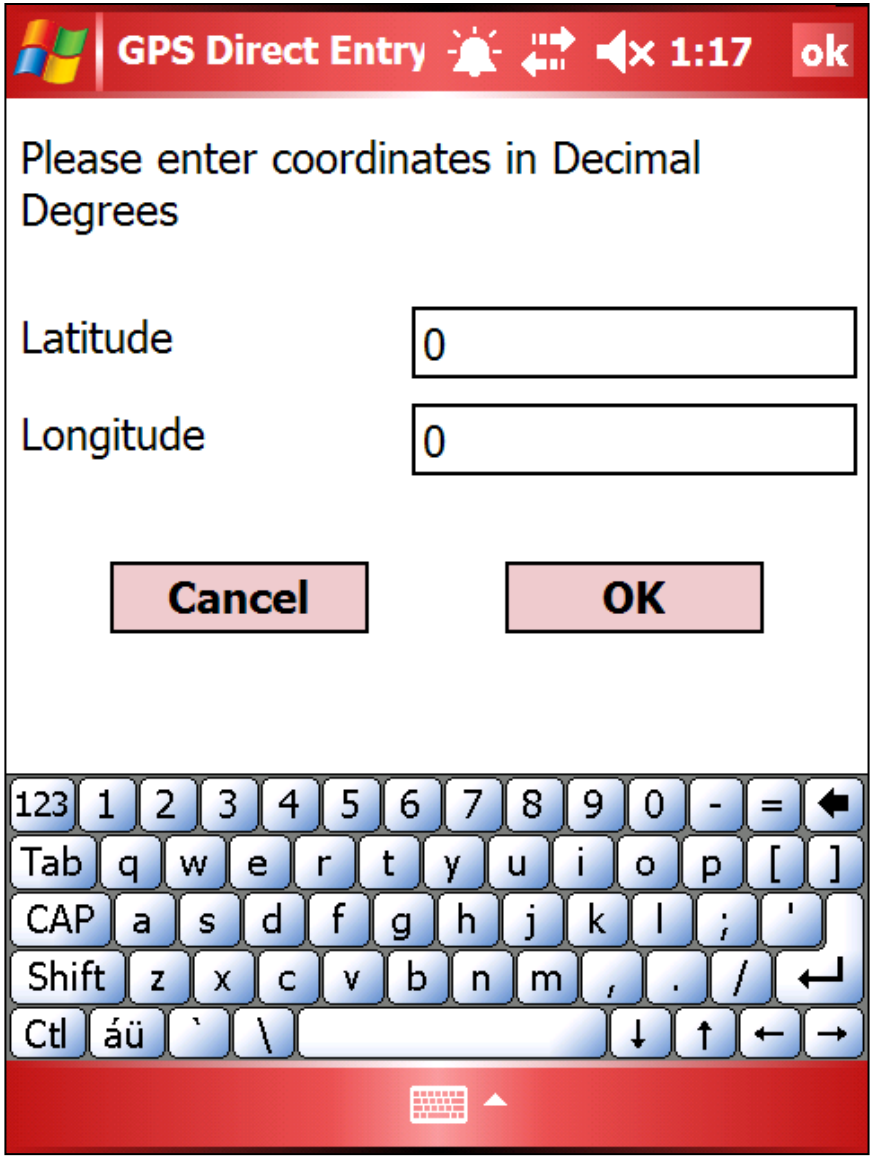
- Automatically assigns Tree ID
- Enter street address
- Land Use
- Site Type
- City Managed
  - Public or private tree

GPS

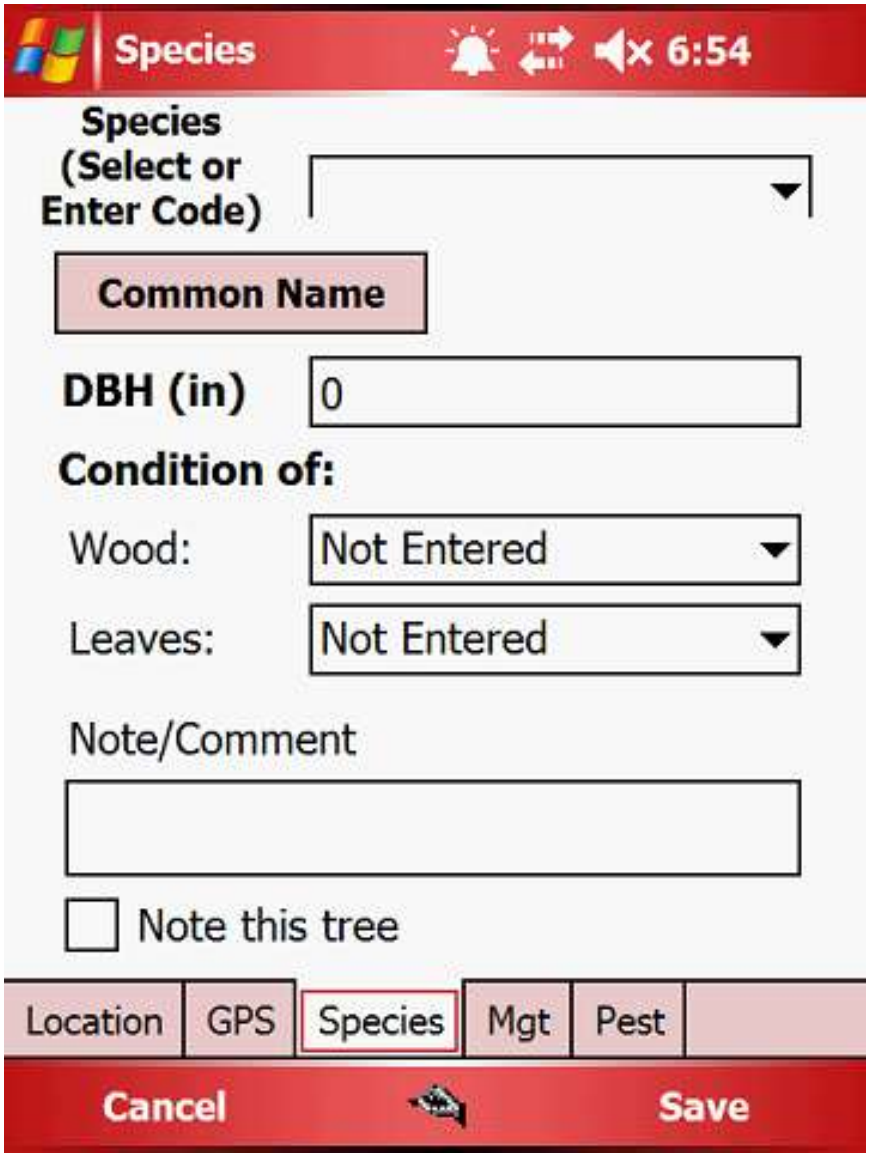
- Connect to your external GPS and capture the coordinates
- Enter the coordinates manually



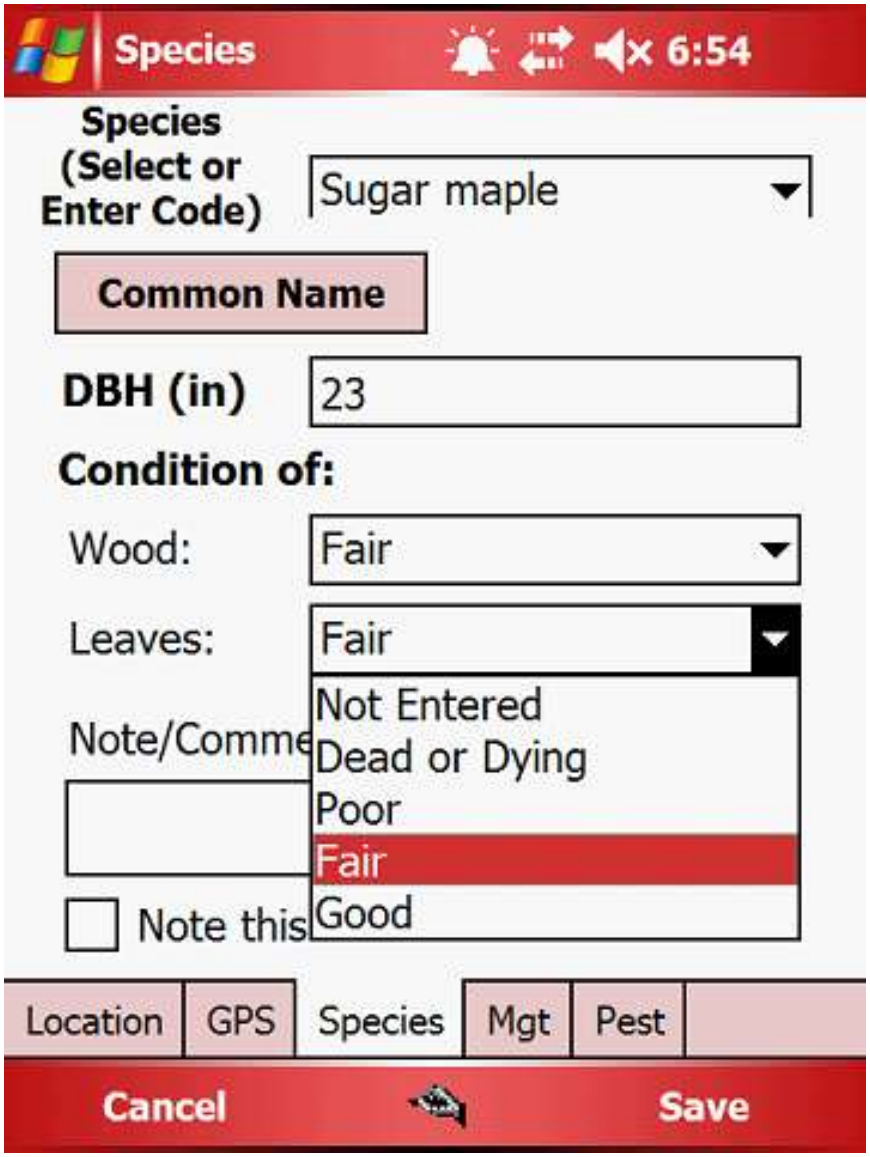
GPS—Direct Entry



Species Information

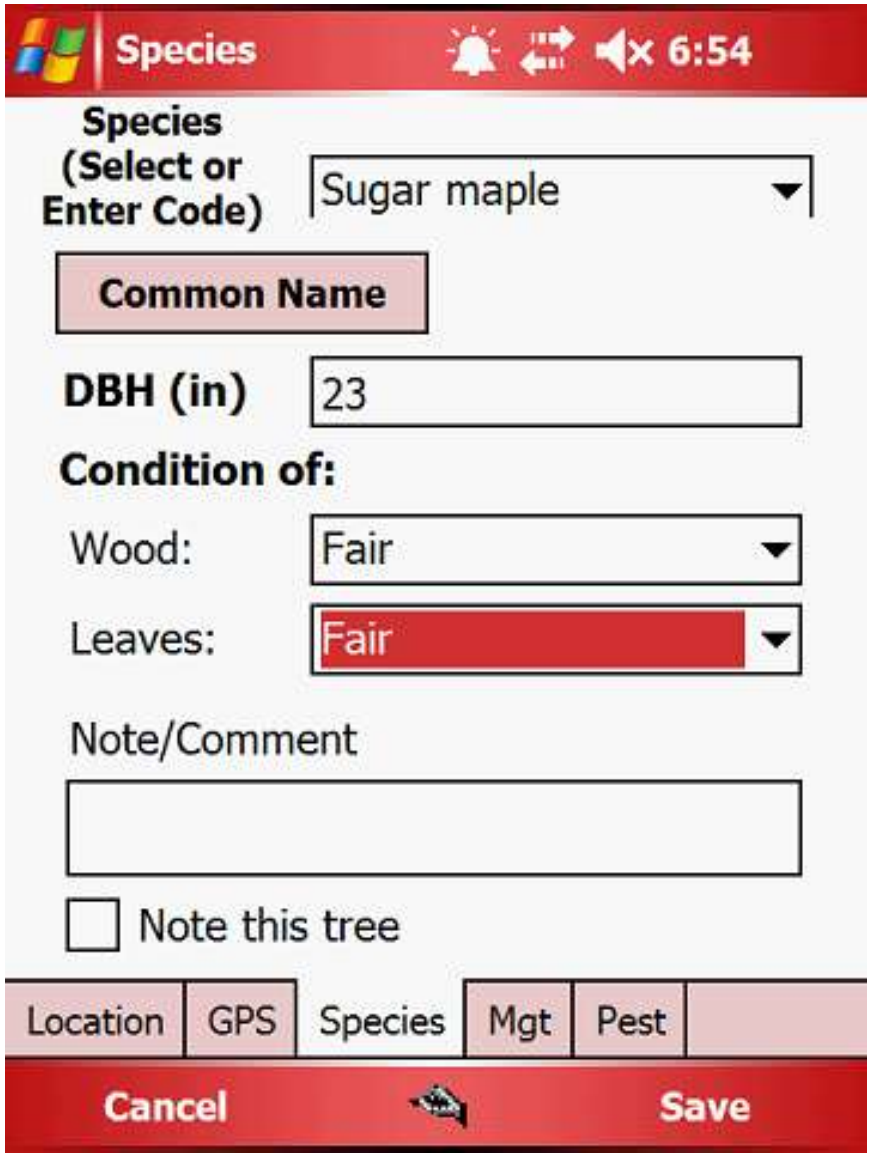


Species Information



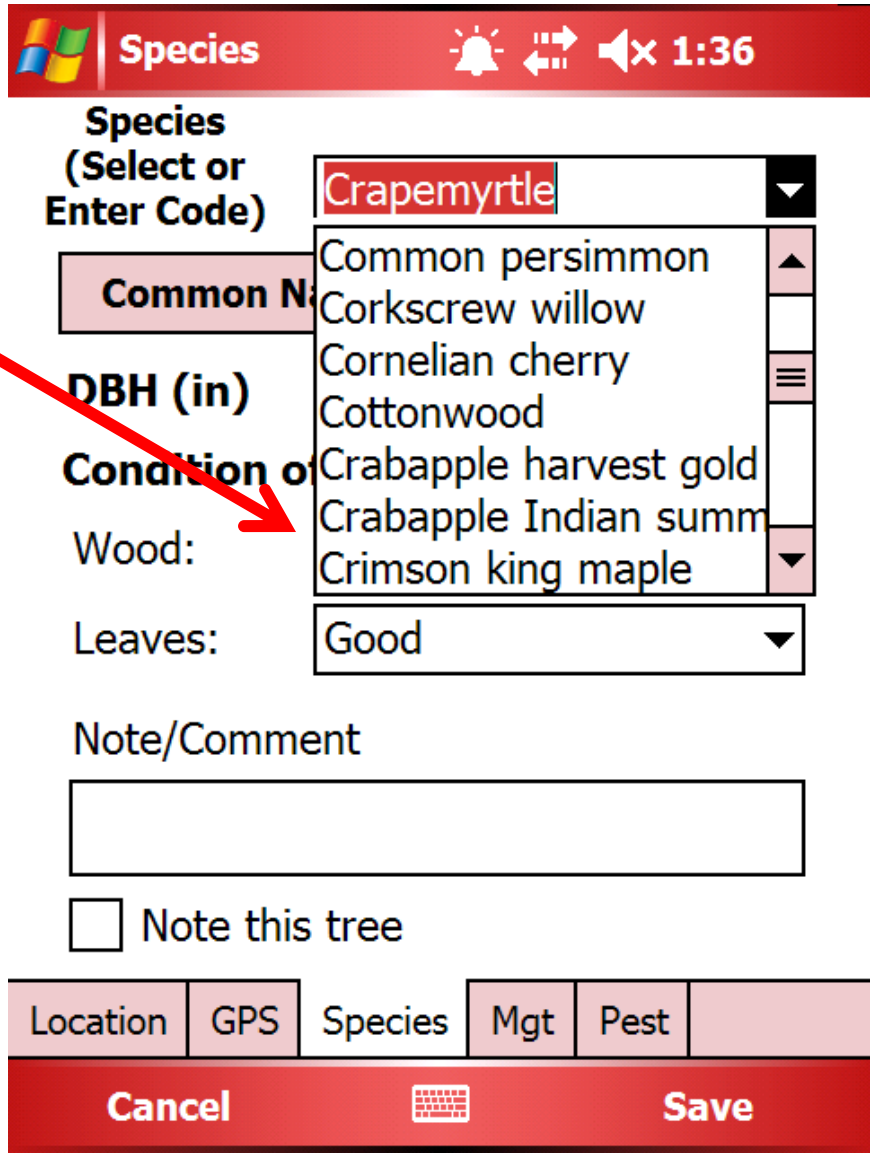
Species Information

- Include any notes or comments on the tree
- Check "Note this Tree" to flag tree for further inquiry
- Click "Common Name" button to switch between common and scientific names



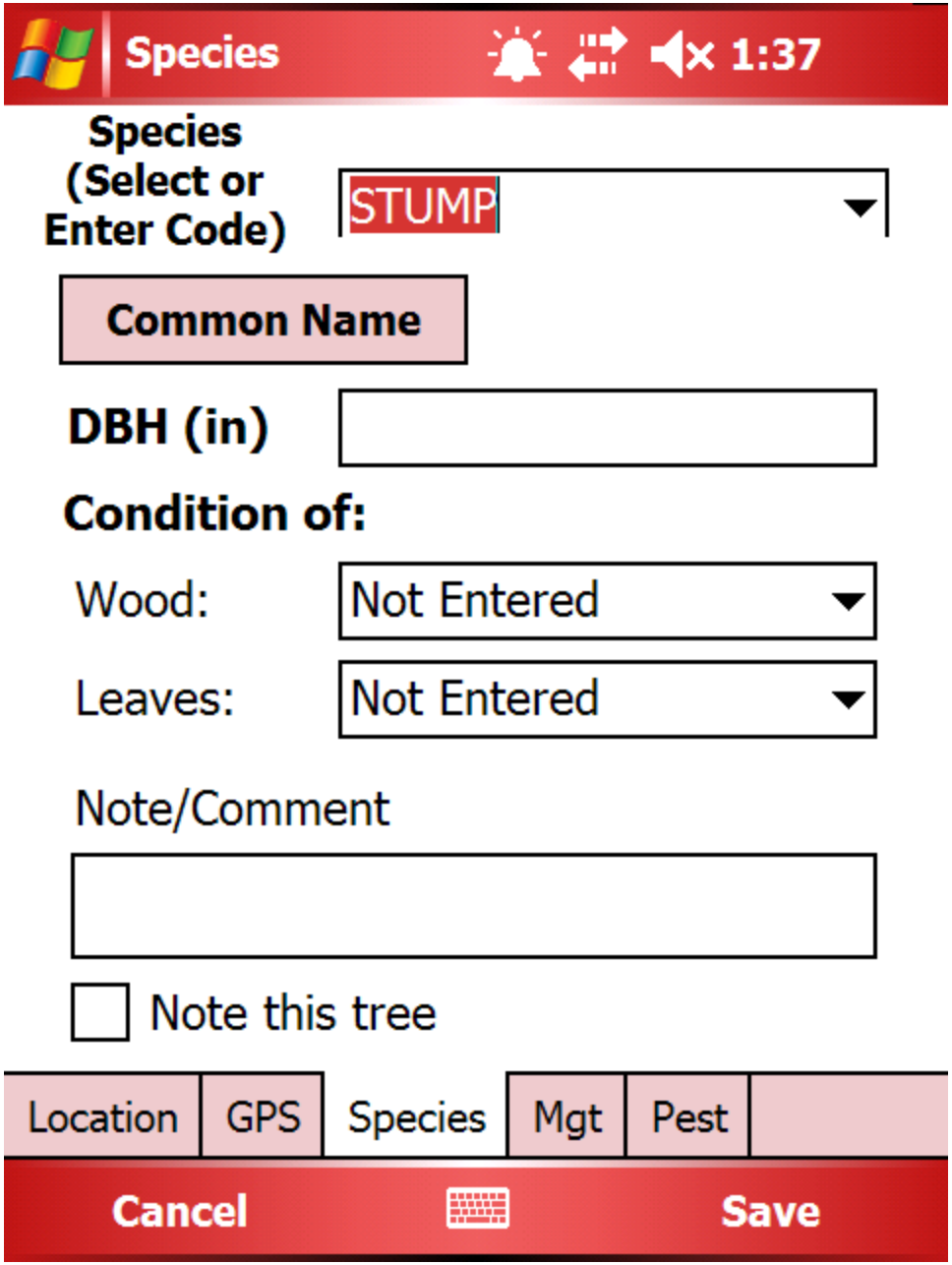
Species Information

- Species not in drop-down menu
- Type species name
- You will work with this in the desktop program

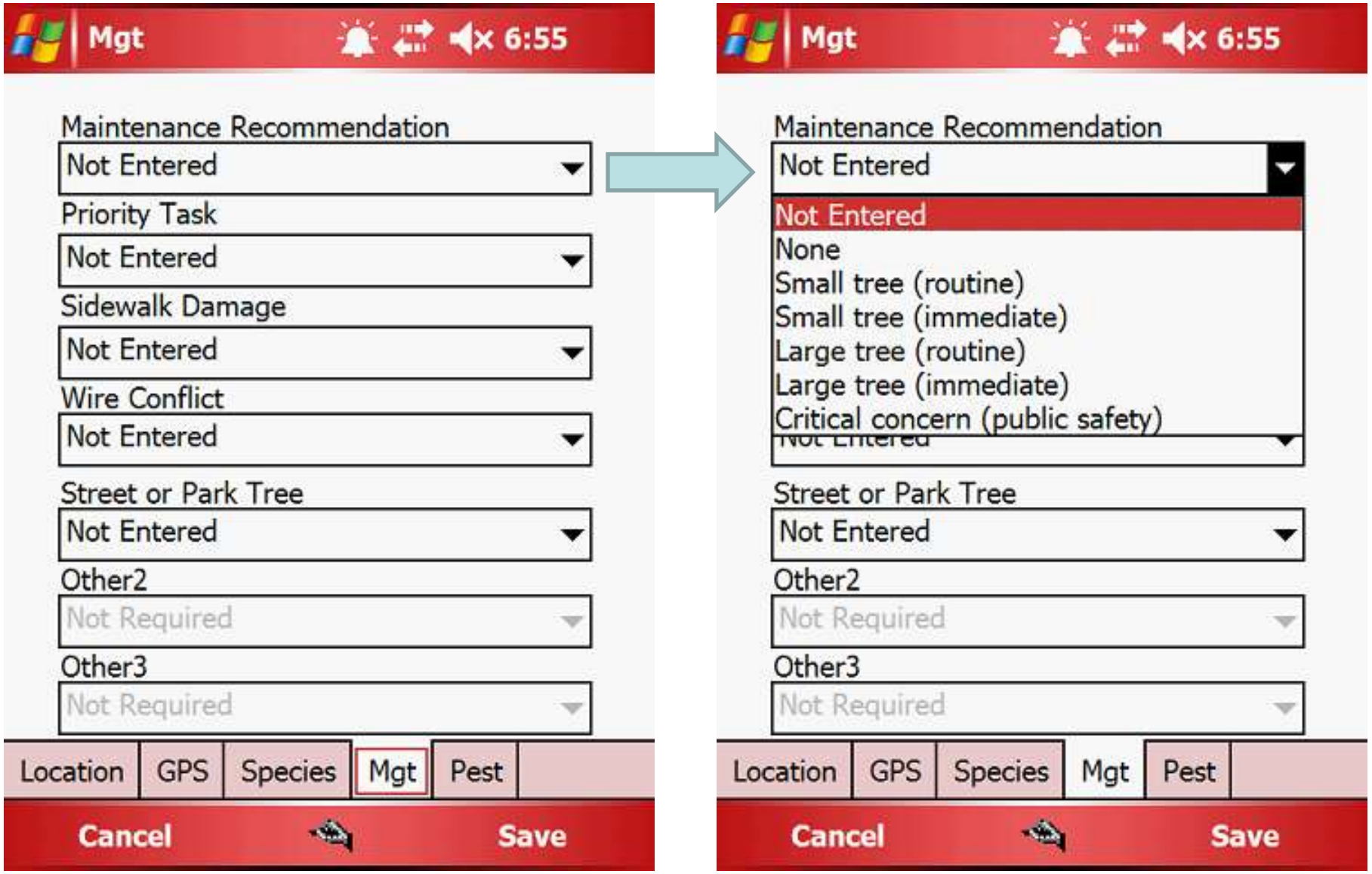


Species Information—Non-Tree items

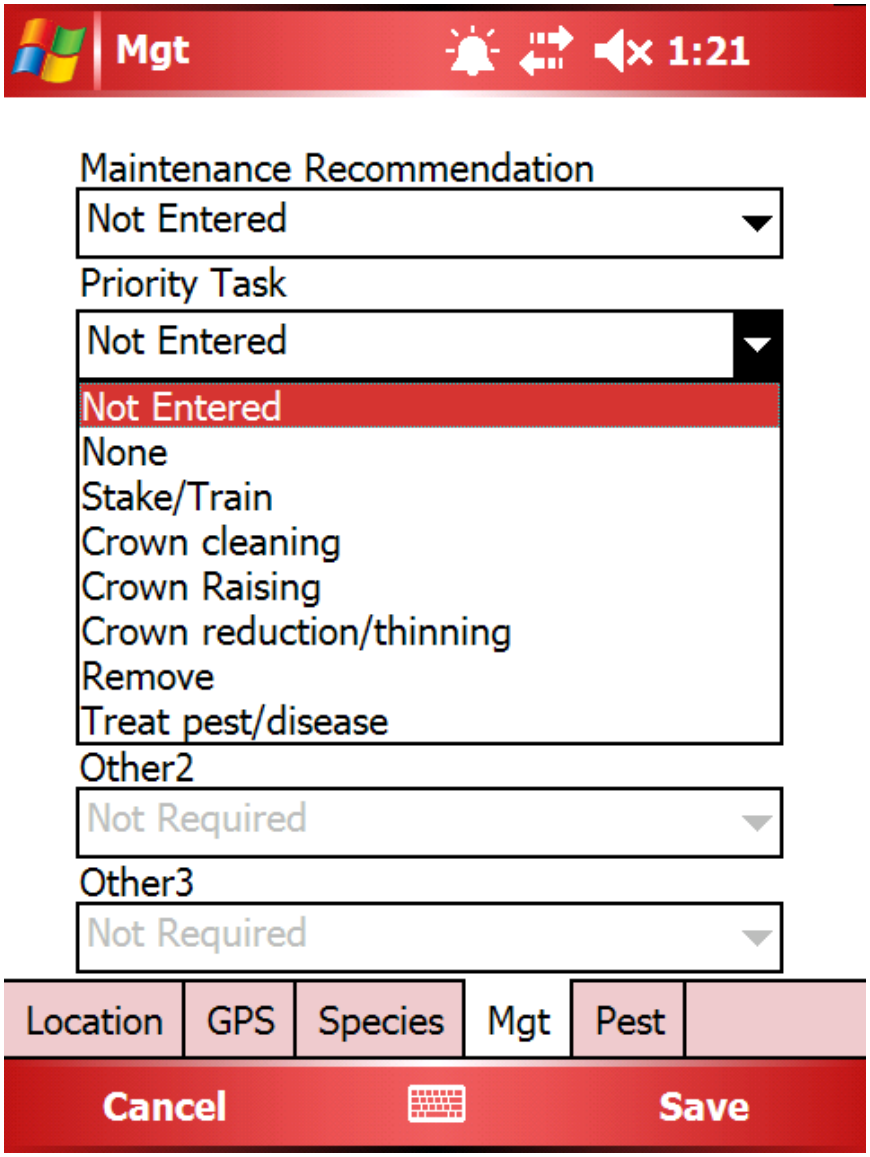
- When configuring the project at your computer, you can enter non-tree items, such as "stump" or "plantable space"
- Hit Save when complete or continue to Mgt tab to enter removal information



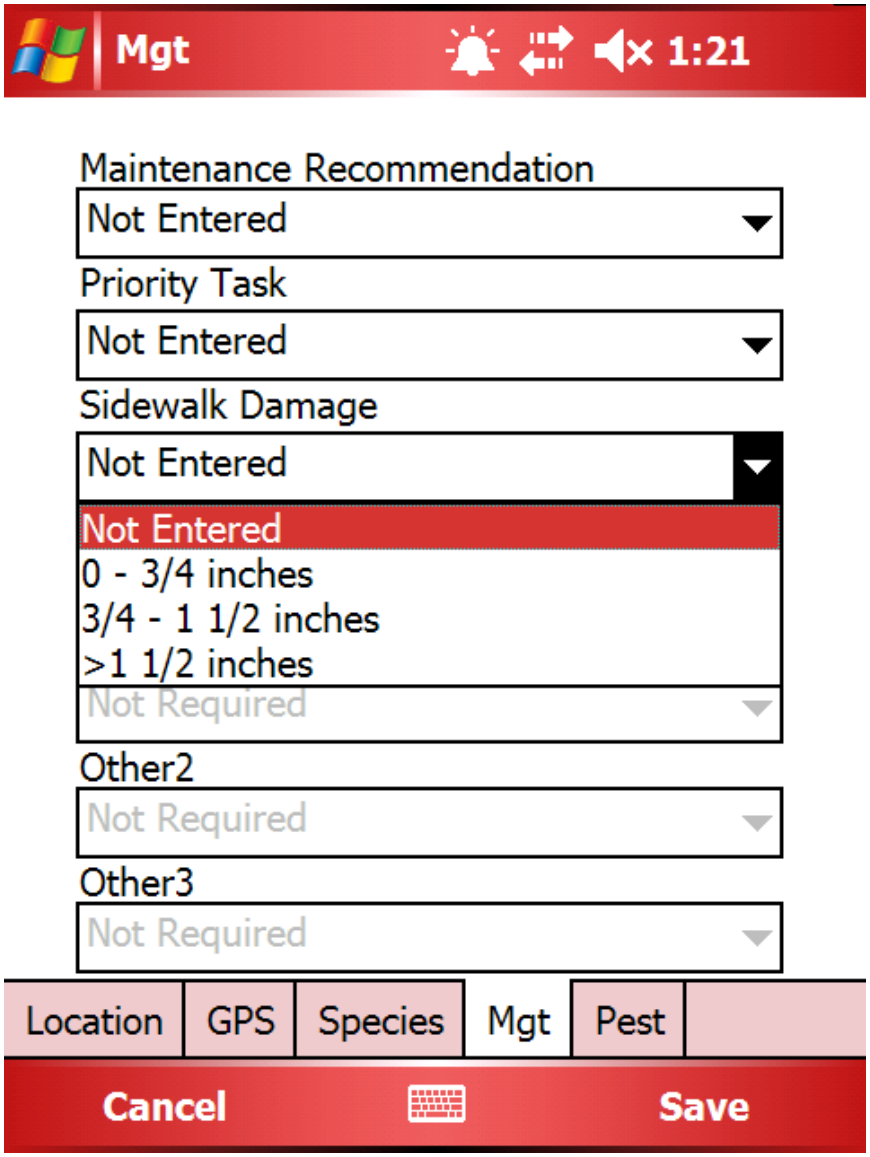
Mgt—Management Information



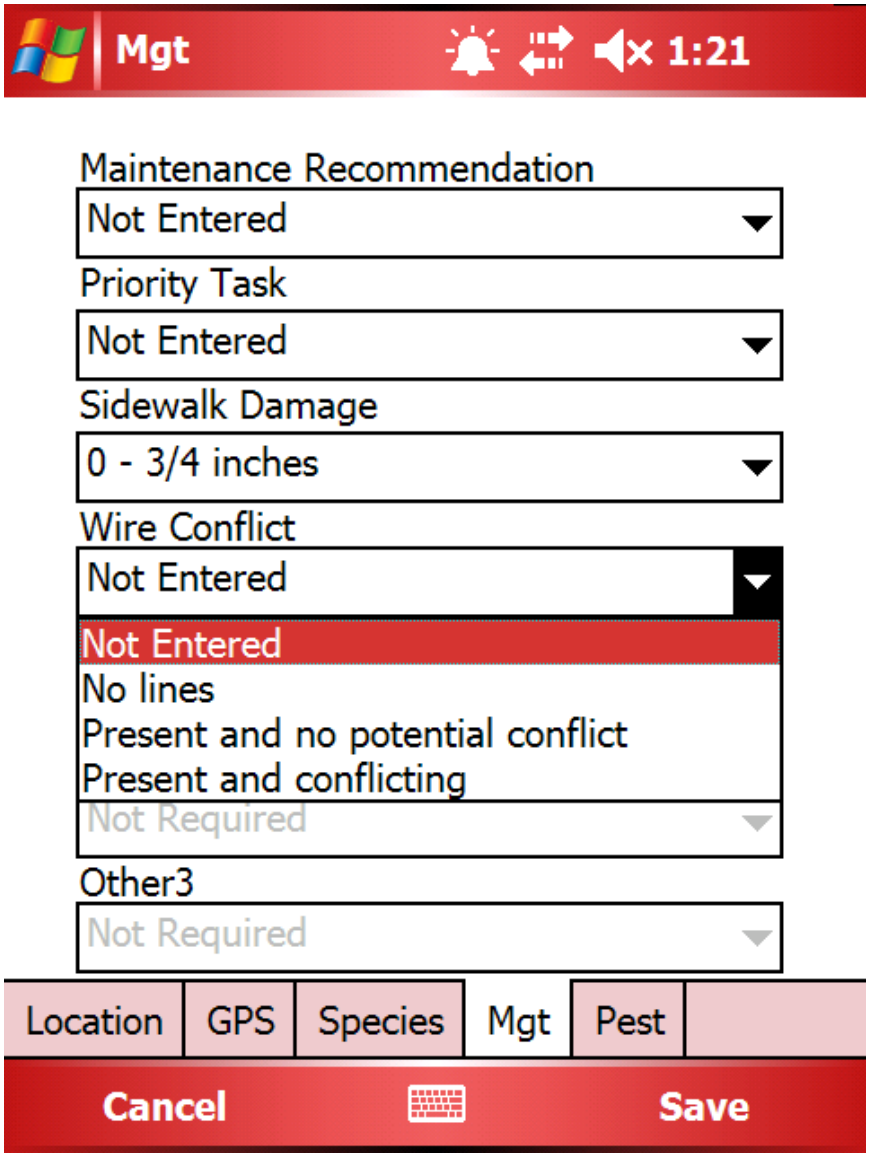
Mgt—Priority Task



Mgt—Sidewalk Damage

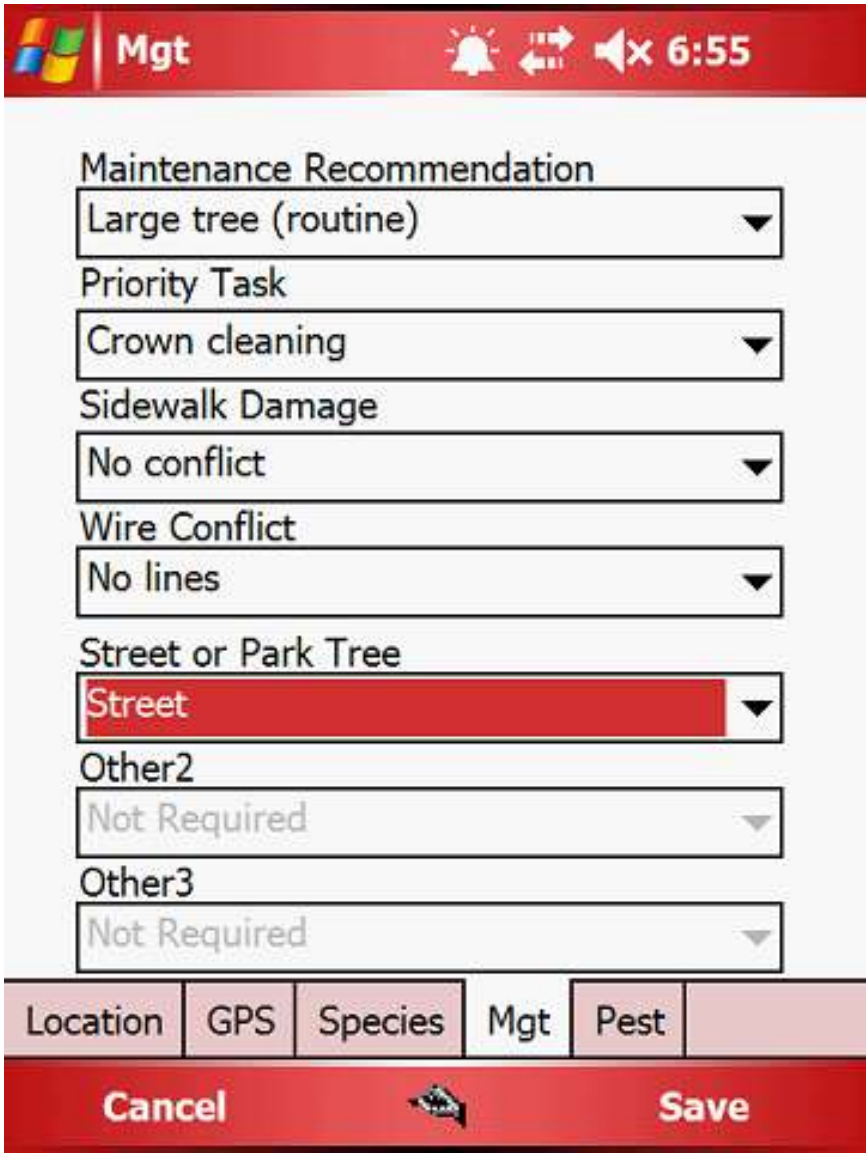


Mgt—Wire Conflict

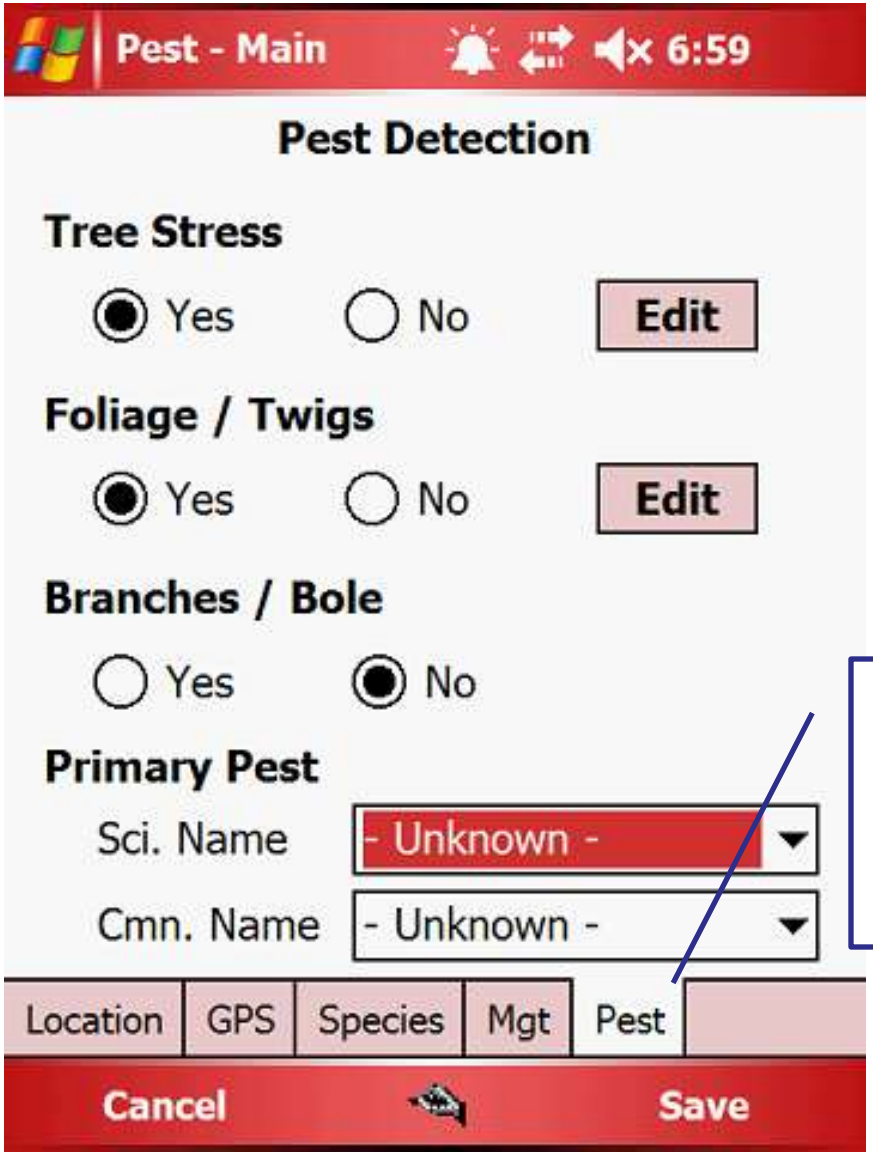


Mgt—Management Information

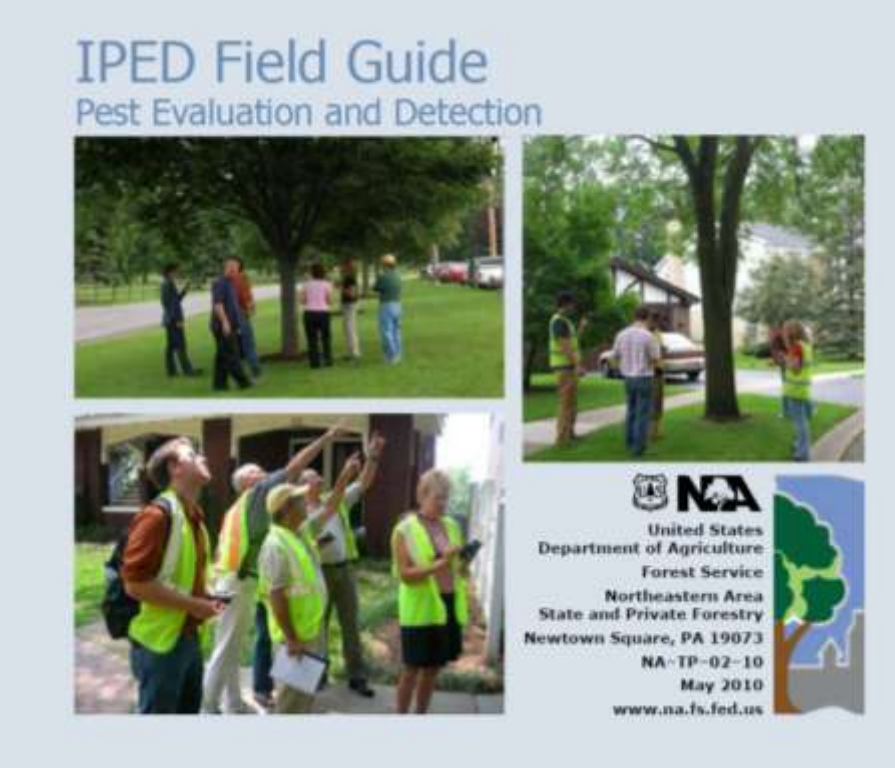
- Other1, Other2, Other3
- For inventory purposes, you can include Street or Park tree, but for i-Tree Streets Analysis, park trees must be excluded (Streets analysis for street trees only)
- Here we used the Other1 Category to designate street or park trees



Pest



Pest Information Coming Up!



WORKING WITH IPED

INVENTORY PEST EVALUATION AND DETECTION

WORKING WITH YOUR INVENTORY ON YOUR DESKTOP

Manual Data Entry

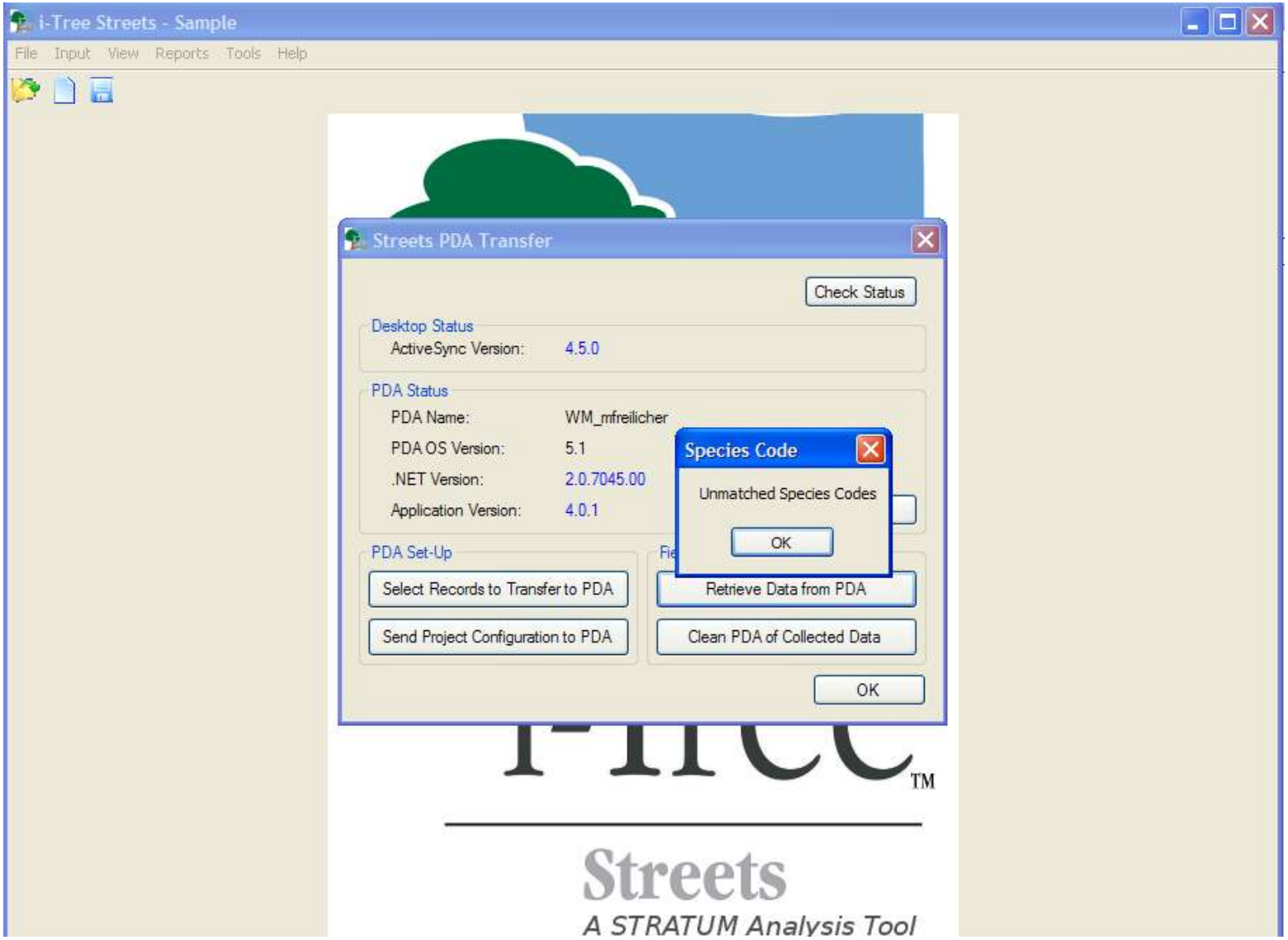
- Inputs → Records
  - Manually enter inventory information directly into i-Tree Streets
- Import inventory as Microsoft Access Database
  - See the i-Tree Streets User's Manual for information on importing

Open i-Tree Streets and connect external device to computer.

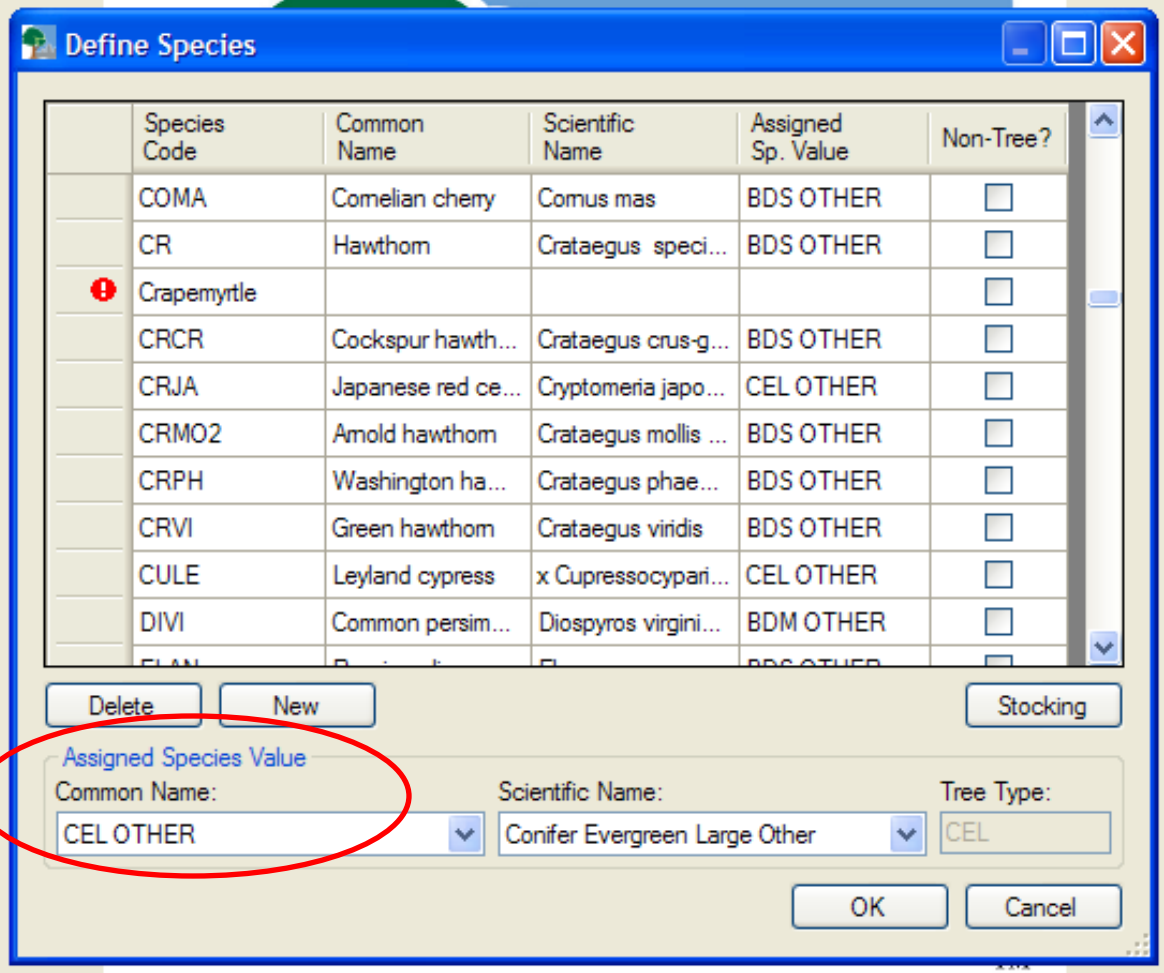
Once connected, select **Retrieve Data from PDA** to import data from external device

Make sure you have exited out of Streets on the external device before importing data

Unmatched Species Codes



Since we added Crapemyrtle in the field, we have to enter it into our list on the desktop and assign a **common** and **scientific name**



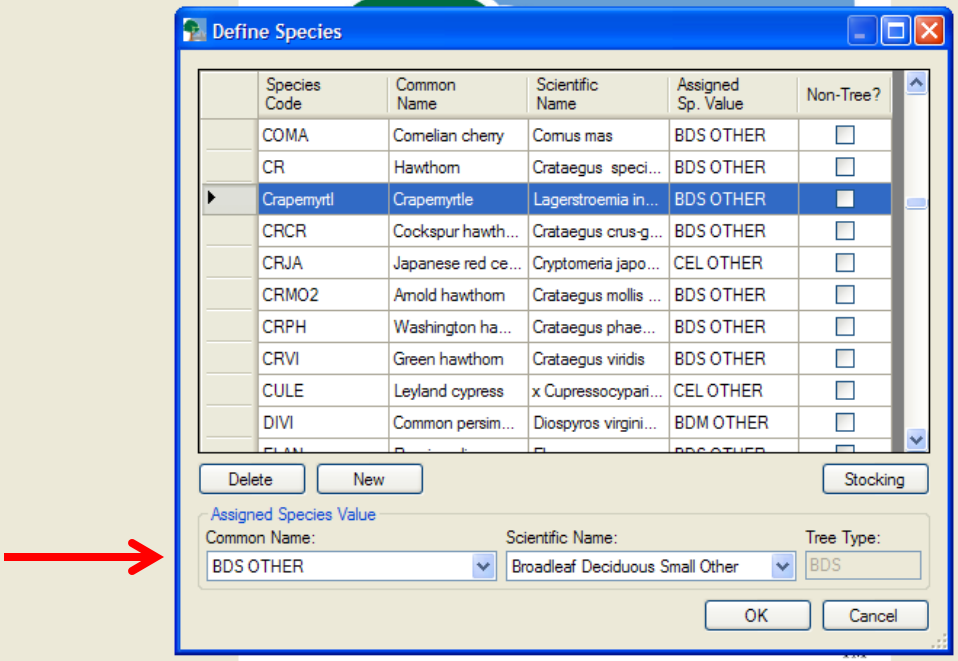
We also will assign a Species Value for Crapemyrtle.

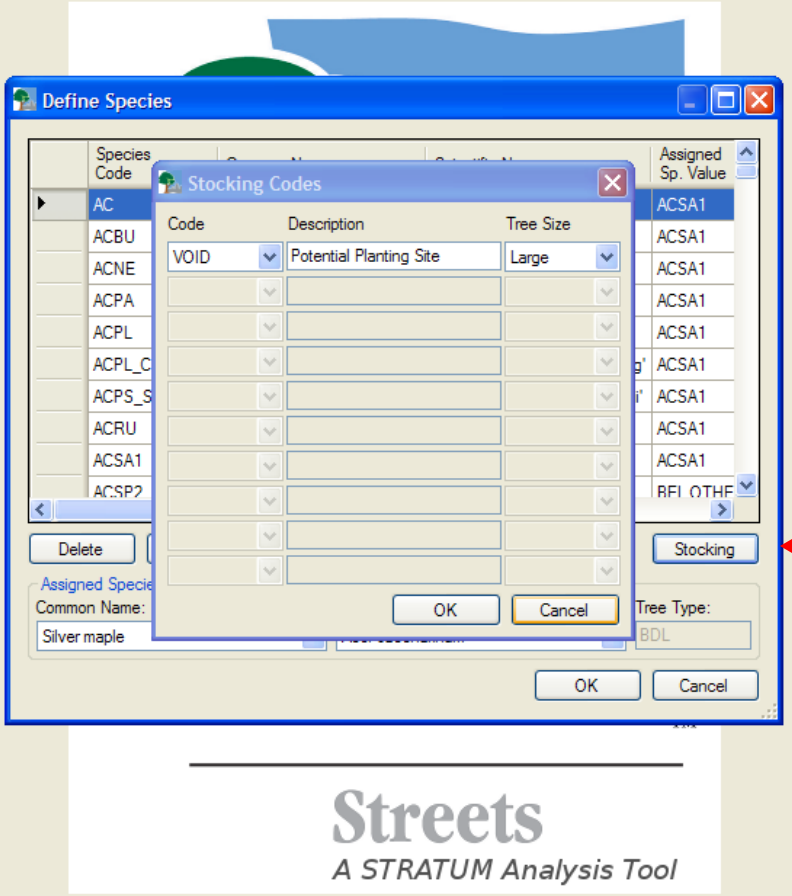
Assigned Species Value

- We assign a species value for the i-Tree Streets assessment so that benefits from the tree can be counted
- Consider the mature size, tree type, form, and family and genus relationships
- You may be able to match to a similar species OR
- You may match with a broad category: “Broadleaf Deciduous Small”
- The same tree in another area may have a different value if climate or other conditions are more or less favorable

Assign species value for new trees

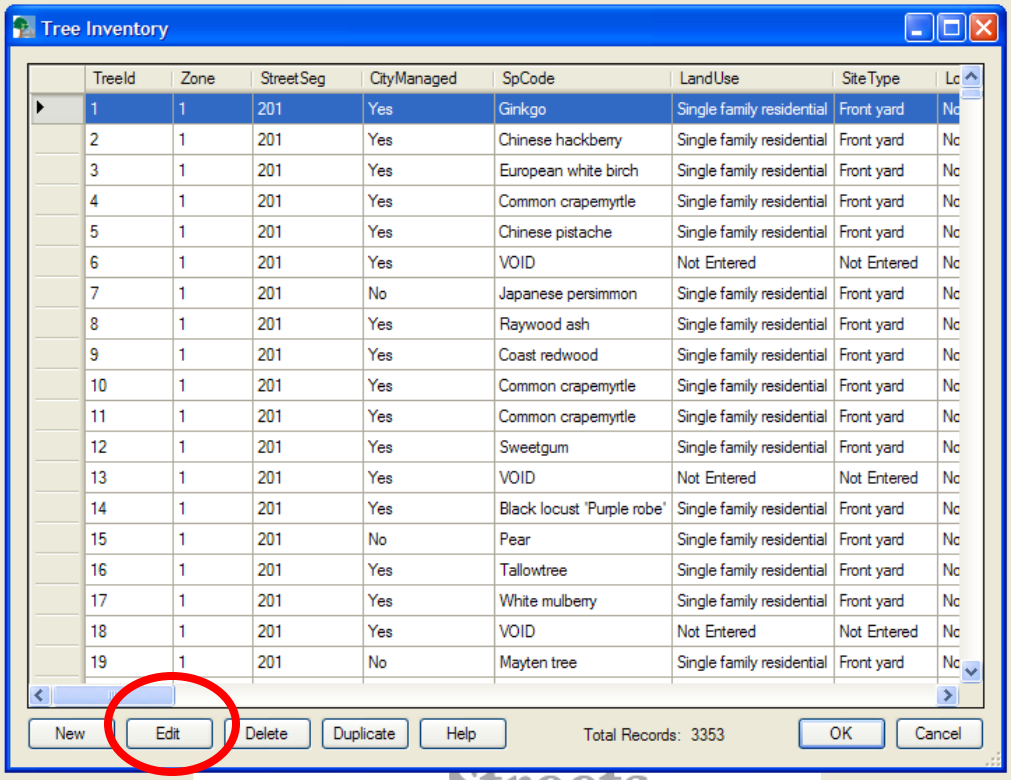
BDS Other
"Broadleaf Deciduous Small Other"





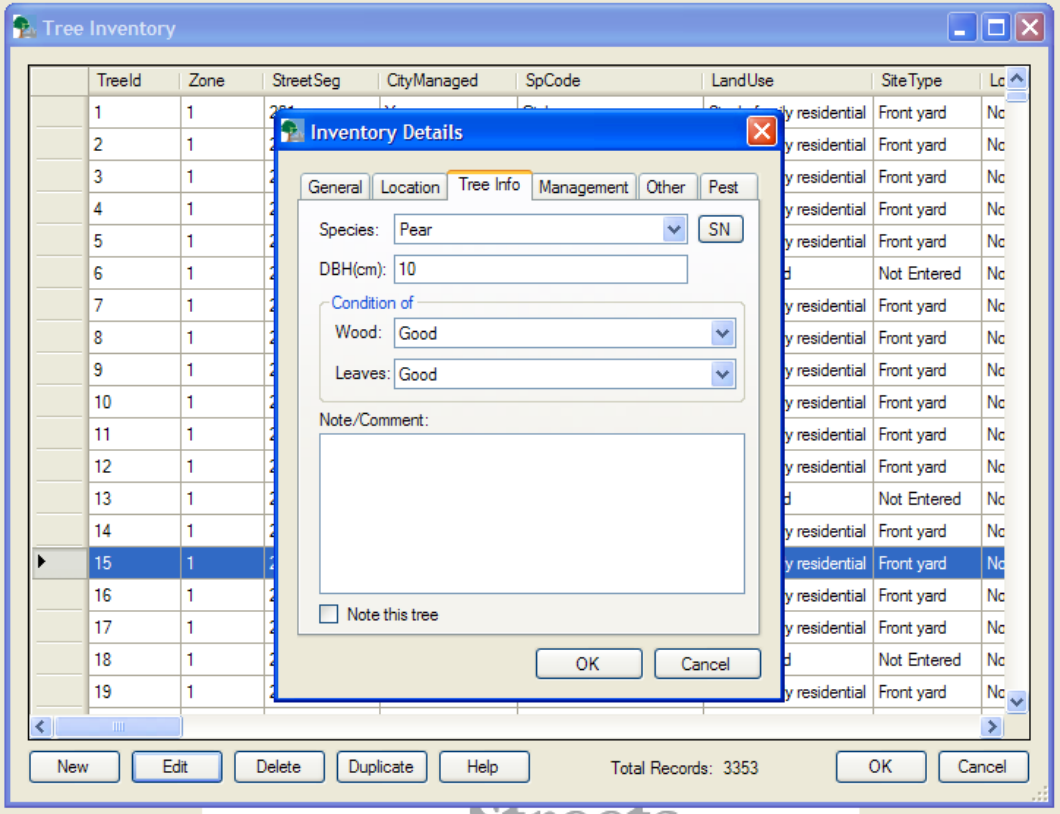
For non-tree codes click "**Stocking**" to assign non-tree information

To edit any records go to Input→Records and select Edit



Streets
A STRATUM Analysis Tool

Then you can edit any of the information collected



Enter local cost and benefit information

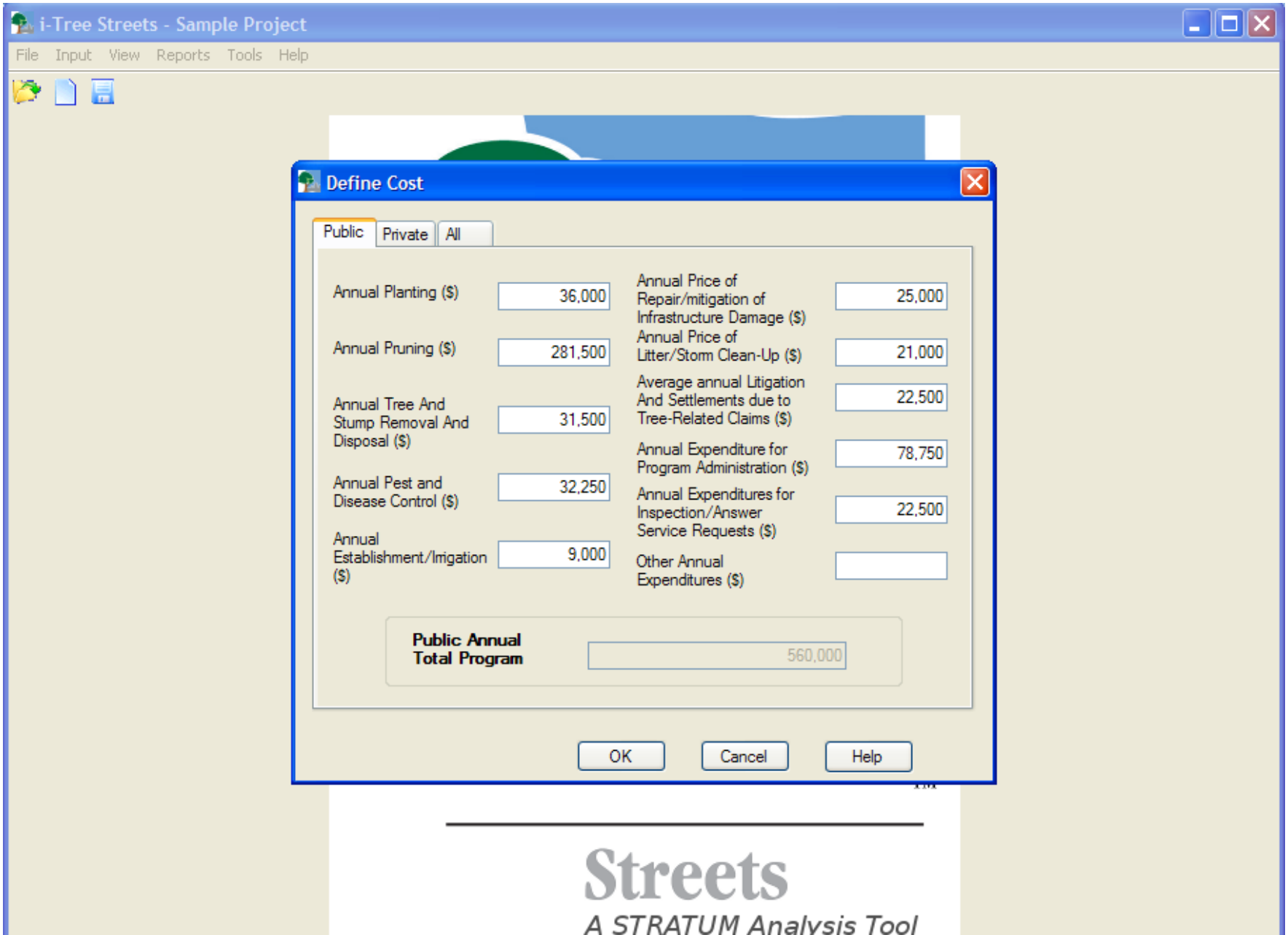
- Enter local information to customize benefits to your community.
- These costs are entered in the **Input** menu
- City Information
- Annual Costs
- Benefit Prices

City Information

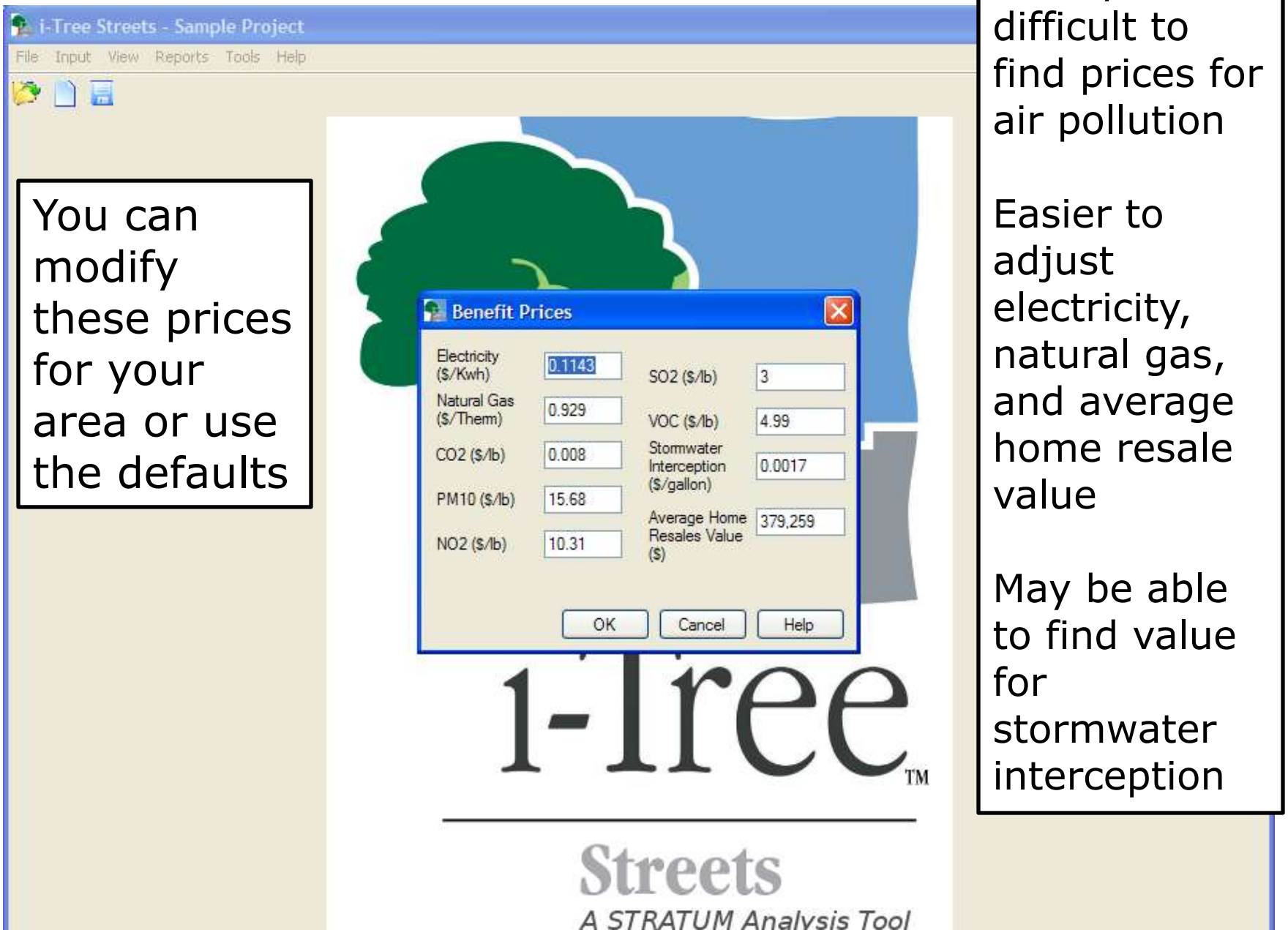
- Total Municipal Budget
- Population
- Total Land Area (Sq mi)
- Average Sidewalk width (ft)
- Total Linear Miles of Street
- Average Street width (ft)

Much of this information will be available from your Public Works Department or Tree Warden

Annual Costs



Benefit Prices



You can modify these prices for your area or use the defaults

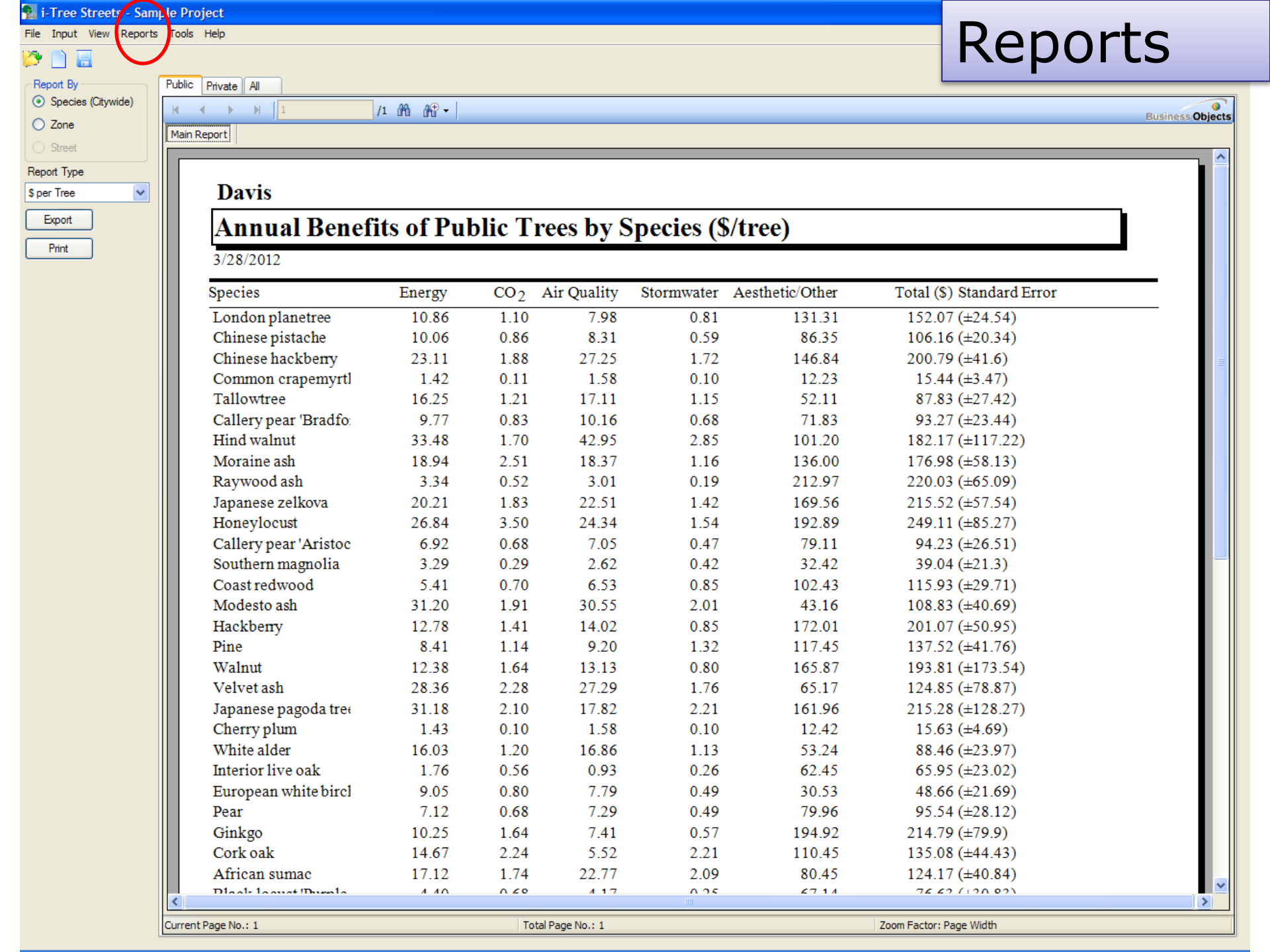
It may be difficult to find prices for air pollution

Easier to adjust electricity, natural gas, and average home resale value

May be able to find value for stormwater interception

Reports

- Benefits
  - Energy, stormwater, carbon dioxide, air quality, aesthetic
- Structure
  - Population summary, species distribution, importance value, condition, land use, site type, canopy cover over street
- Replacement value
- Pest analysis
- **Examine reports within i-Tree Streets or Export to Excel**


i-Tree Streets - Sample Project
File Input View Reports Tools Help
Reports
Report By
Species (Citywide)
Zone
Street
Report Type
$ per Tree
Export
Print
Public Private All
Main Report
Business Objects
Davis
Annual Benefits of Public Trees by Species ($/tree)
3/28/2012
Species Energy CO2 Air Quality Stormwater Aesthetic/Other Total ($) Standard Error
London planetree 10.86 1.10 7.98 0.81 131.31 152.07 (±24.54)
Chinese pistache 10.06 0.86 8.31 0.59 86.35 106.16 (±20.34)
Chinese hackberry 23.11 1.88 27.25 1.72 146.84 200.79 (±41.6)
Common crapemyrtl 1.42 0.11 1.58 0.10 12.23 15.44 (±3.47)
Tallowtree 16.25 1.21 17.11 1.15 52.11 87.83 (±27.42)
Callery pear 'Bradfo 9.77 0.83 10.16 0.68 71.83 93.27 (±23.44)
Hind walnut 33.48 1.70 42.95 2.85 101.20 182.17 (±117.22)
Moraine ash 18.94 2.51 18.37 1.16 136.00 176.98 (±58.13)
Raywood ash 3.34 0.52 3.01 0.19 212.97 220.03 (±65.09)
Japanese zelkova 20.21 1.83 22.51 1.42 169.56 215.52 (±57.54)
Honeylocust 26.84 3.50 24.34 1.54 192.89 249.11 (±85.27)
Callery pear 'Aristoc 6.92 0.68 7.05 0.47 79.11 94.23 (±26.51)
Southern magnolia 3.29 0.29 2.62 0.42 32.42 39.04 (±21.3)
Coast redwood 5.41 0.70 6.53 0.85 102.43 115.93 (±29.71)
Modesto ash 31.20 1.91 30.55 2.01 43.16 108.83 (±40.69)
Hackberry 12.78 1.41 14.02 0.85 172.01 201.07 (±50.95)
Pine 8.41 1.14 9.20 1.32 117.45 137.52 (±41.76)
Walnut 12.38 1.64 13.13 0.80 165.87 193.81 (±173.54)
Velvet ash 28.36 2.28 27.29 1.76 65.17 124.85 (±78.87)
Japanese pagoda tre 31.18 2.10 17.82 2.21 161.96 215.28 (±128.27)
Cherry plum 1.43 0.10 1.58 0.10 12.42 15.63 (±4.69)
White alder 16.03 1.20 16.86 1.13 53.24 88.46 (±23.97)
Interior live oak 1.76 0.56 0.93 0.26 62.45 65.95 (±23.02)
European white birch 9.05 0.80 7.79 0.49 30.53 48.66 (±21.69)
Pear 7.12 0.68 7.29 0.49 79.96 95.54 (±28.12)
Ginkgo 10.25 1.64 7.41 0.57 194.92 214.79 (±79.9)
Cork oak 14.67 2.24 5.52 2.21 110.45 135.08 (±44.43)
African sumac 17.12 1.74 22.77 2.09 80.45 124.17 (±40.84)
Current Page No.: 1
Total Page No.: 1
Zoom Factor: Page Width

Reports—Many Options

Davis

3/12/2012

Total Annual Benefits, Net Benefits, and Costs for Public Trees

Benefits	Total ($)	Standard Error Total	$/tree	Standard Error Per Tree	$/capita	Standard Error Per Capita
Energy	307,720	(±14,534)	12.93	(±.61)	4.79	(±.23)
CO2	29,319	(±1,385)	1.23	(±.06)	0.46	(±.02)
Air Quality	297,880	(±14,069)	12.52	(±.59)	4.64	(±.22)
Stormwater	23,939	(±1,131)	1.01	(±.05)	0.37	(±.02)
Aesthetic/Other	2,413,002	(±113,969)	101.40	(±4.79)	37.57	(±1.77)
Total Benefits	3,071,860	(±145,088)	129.08	(±6.1)	47.83	(±2.26)

i-Tree Streets - Sample Project

File Input View Reports Tools Help

Benefit-Cost Analysis
Resource Structural Analysis
Replacement Value
Pest Analysis

Population Summary
Species Distribution
Relative Age Distribution
Importance Values
Condition
Relative Performance Index
Stocking Level
Maintenance
Land Use
Site Type
Conflicts
Canopy Cover
Other

Report By
Species (Cityw
Zone
Street

Export
Print

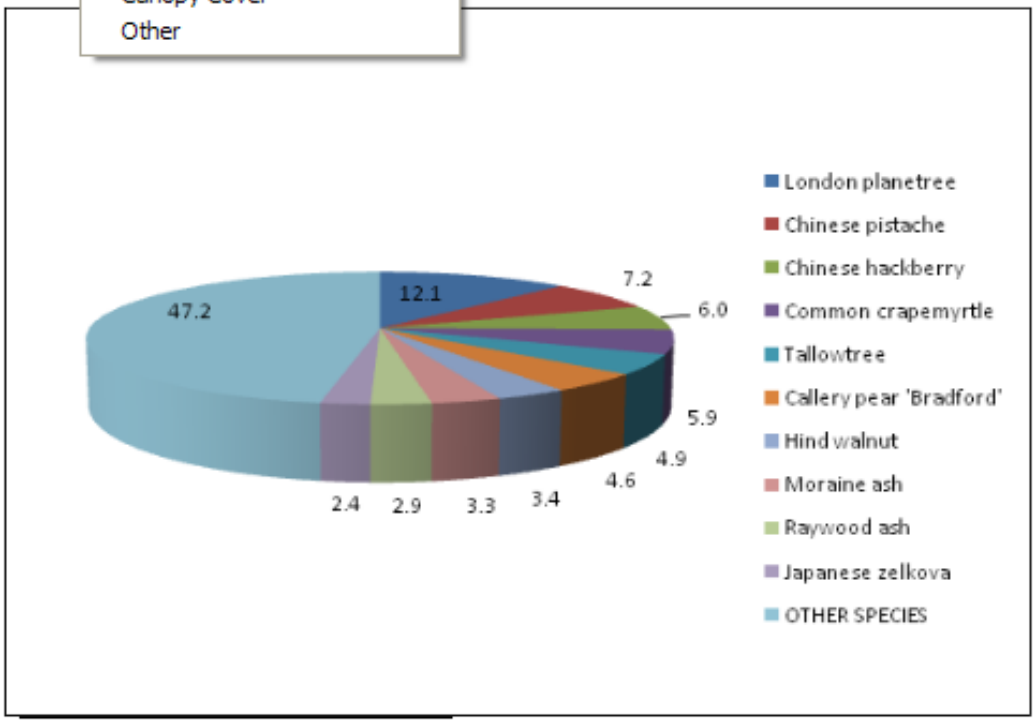
Business Objects

Main Report

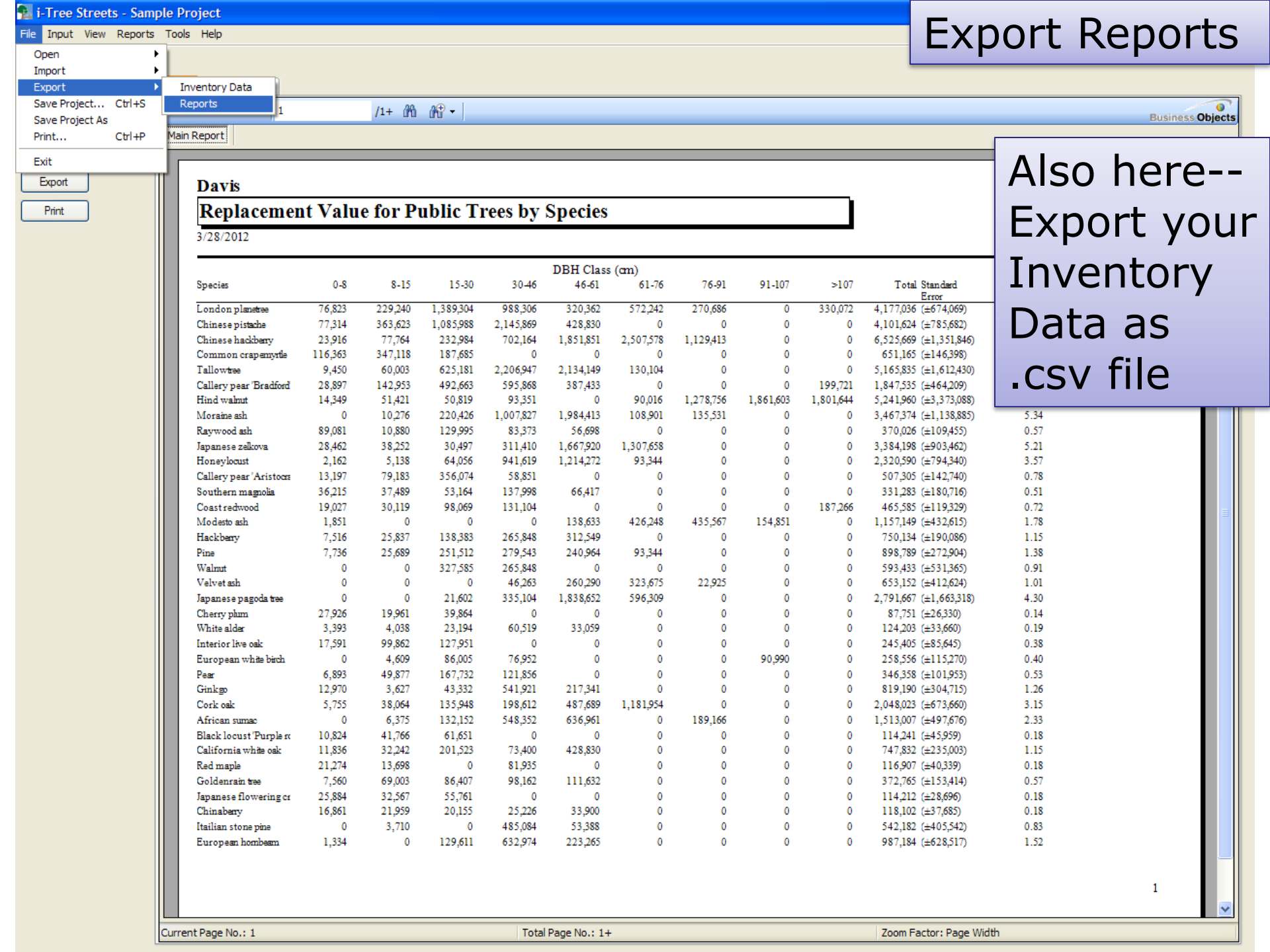
Davis

Speci c Trees (%)

3/29/201

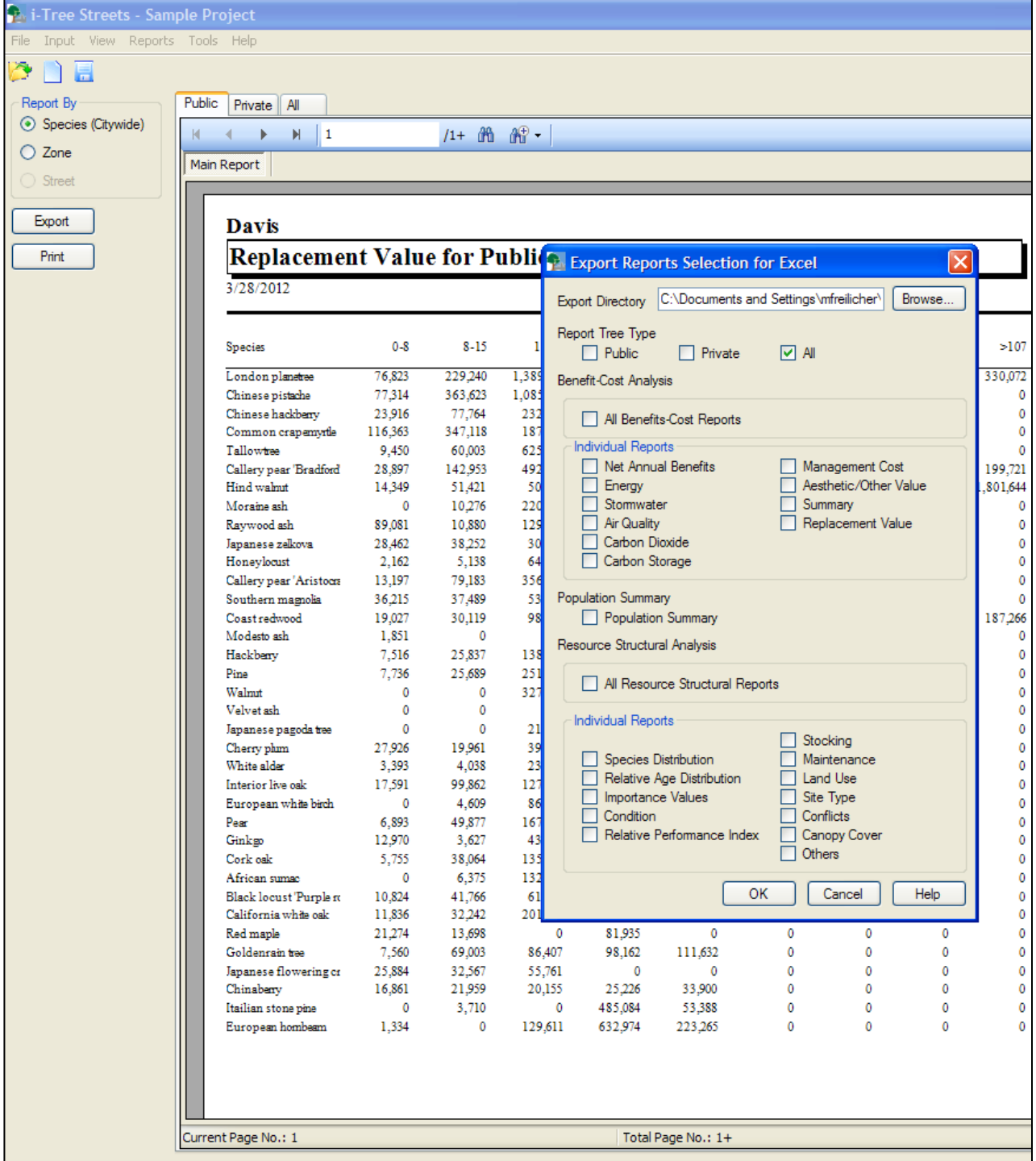


Current Page No.: 1 | Total Page No.: 1 | Zoom Factor: Page Width



Export Reports

Also here--
Export your
Inventory
Data as
.csv file



Select where you want the reports saved ("Export Directory")

Which reports you want

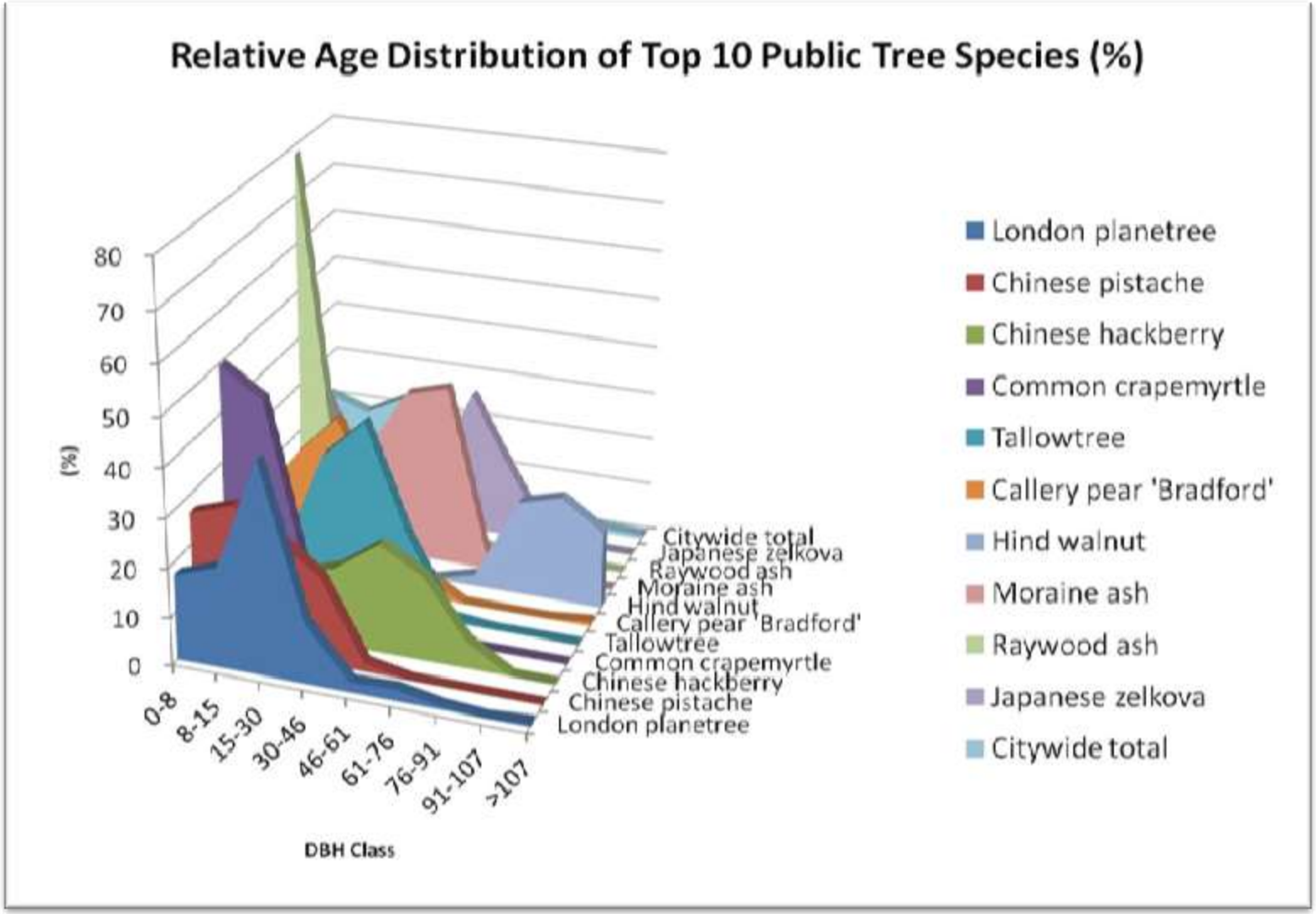
Click **OK**

It may take several minutes to generate the reports

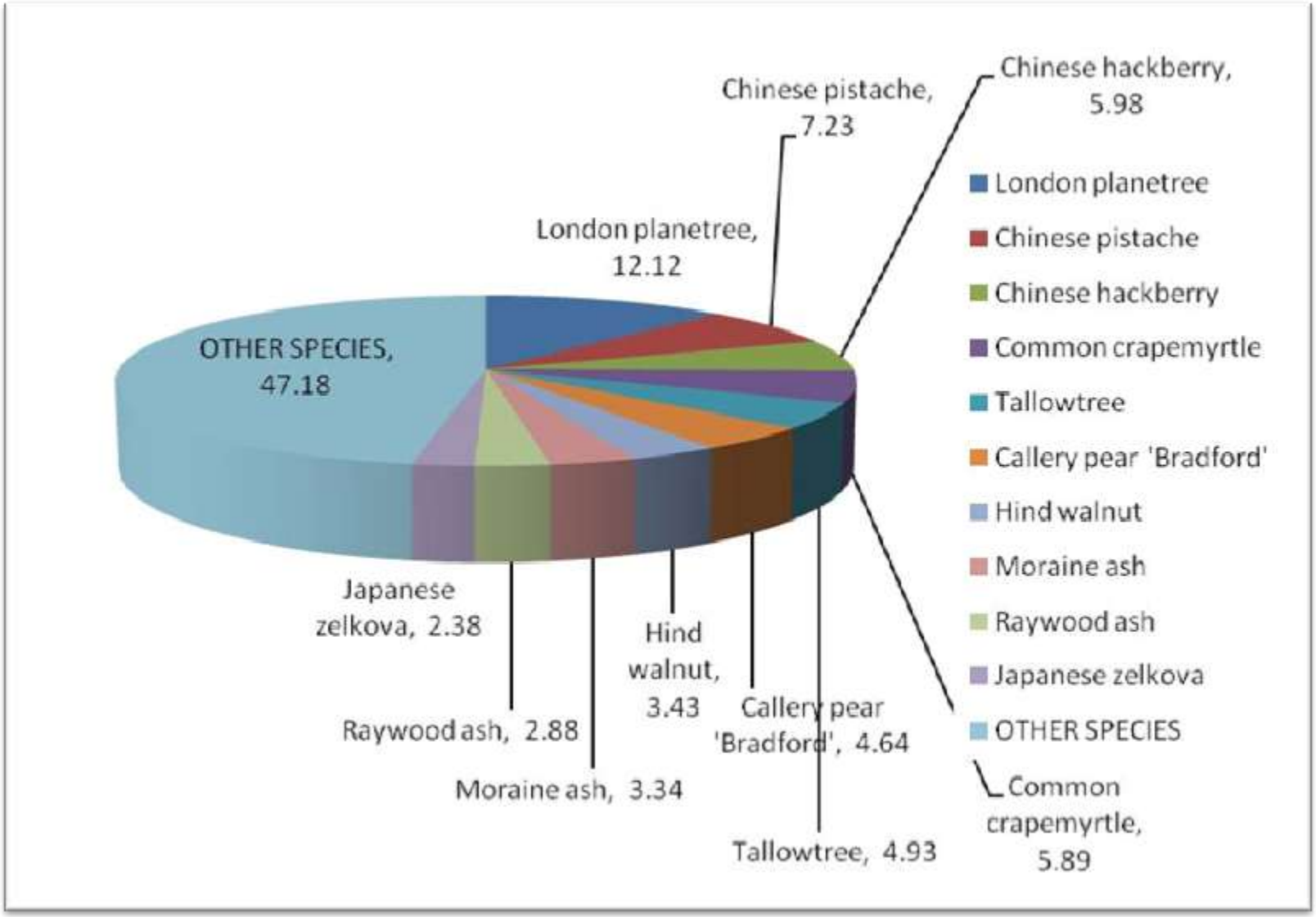
Exporting Reports

- If you selected all reports, you will end up with 3 Excel workbooks
  - BenefitOutput
  - PopulationSummary
  - Structural
- If you designated all, public, or private trees that designation will be at the end of the workbook title (i.e. StructuralAll)

Working with Excel

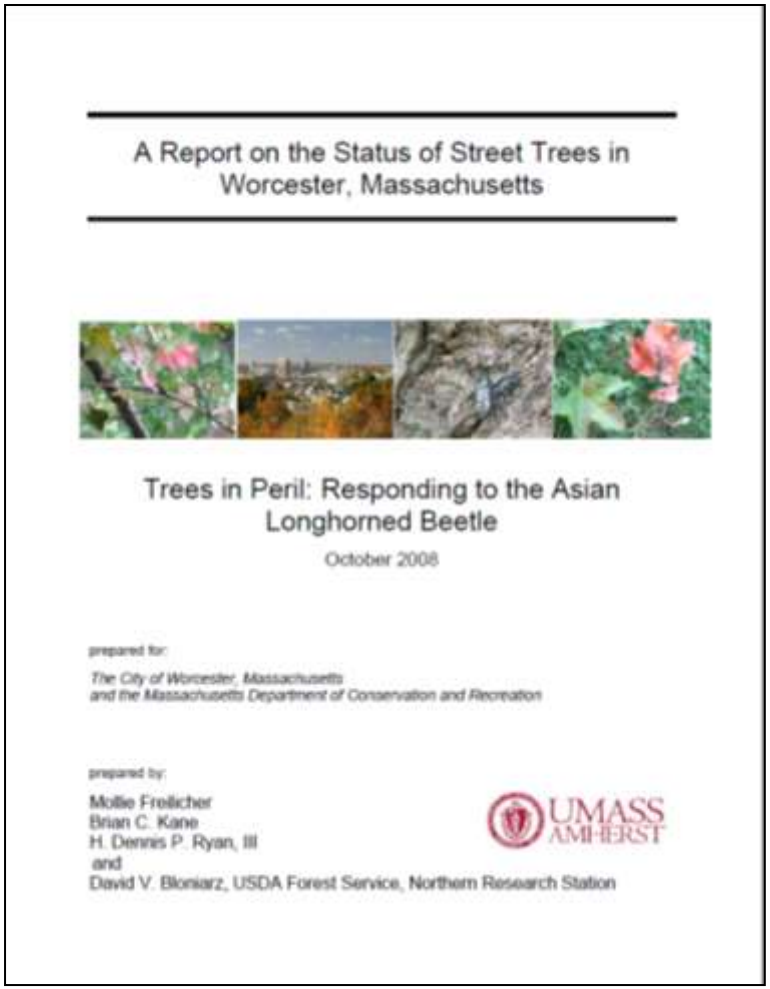


Working with Excel



Where to go with your data

- Use the reports to prepare an analysis of your street trees


A Report on the Status of Street Trees in Worcester, Massachusetts

Trees in Peril: Responding to the Asian Longhorned Beetle

October 2008

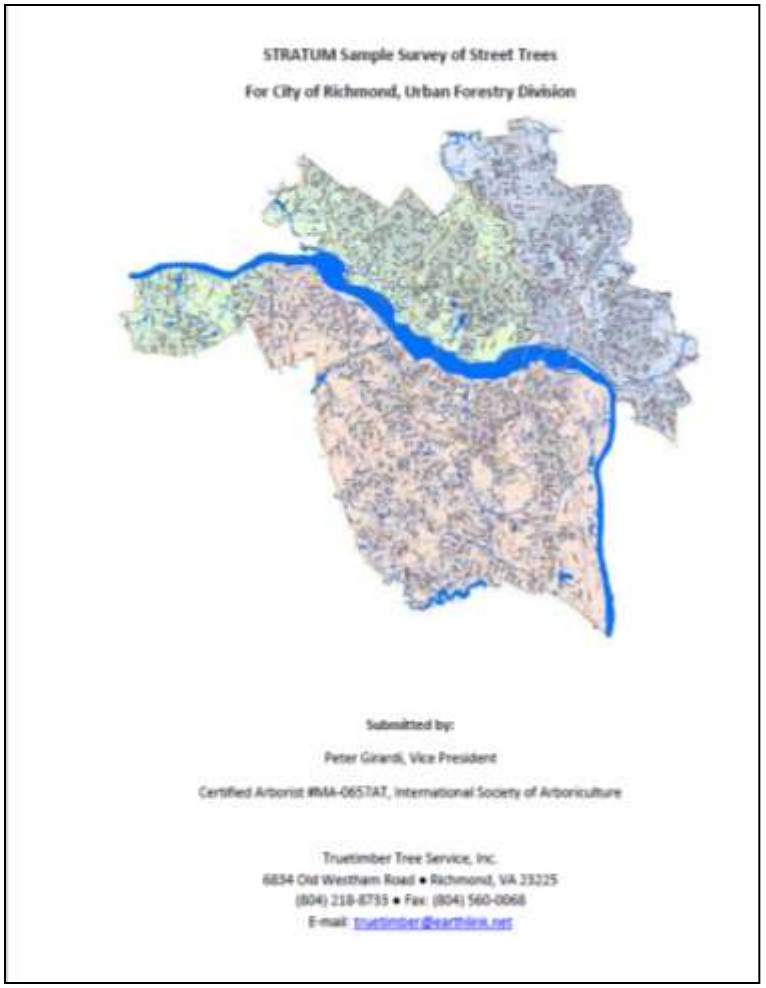
prepared for:

The City of Worcester, Massachusetts
and the Massachusetts Department of Conservation and Recreation

prepared by:

Mollie Frellicher
Brian C. Kane
H. Dennis P. Ryan, III
and
David V. Bloniarz, USDA Forest Service, Northern Research Station

UMASS AMHERST


STRATUM Sample Survey of Street Trees

For City of Richmond, Urban Forestry Division

Submitted by:

Peter Girardi, Vice President

Certified Arborist #MA-0657AT, International Society of Arboriculture

Truetimber Tree Service, Inc.
6834 Old Westham Road • Richmond, VA 23225
(804) 218-8755 • Fax: (804) 560-0068
E-mail: truetimber@earthlink.net

Example reports from communities

- Worcester
- Richmond
- Santa Barbara
- Minneapolis
- More at:
- http://www.itreetools.org/resources/reports.php

- Contact your state urban and community forestry office for guidance

Grant Opportunities in Massachusetts

- MA- DCR Urban & Community Forestry Website: http://www.mass.gov/dcr/stewardship/forestry/urban/
- Urban & Community Forestry Challenge Grant
  - Twice yearly—May 1 and November 1 deadlines
- Projects that will result in **sustained improvements** in local capacity for excellent urban and community forestry management in key areas including
  - **Tree Inventories** that will inform **management plans**
  - Other areas include strengthening advocacy groups, implementing ordinances, attaining professional staff, attaining Tree City USA status, strategic tree planting, heritage tree care, and others

Information on Grants in Massachusetts

For more information
on grant opportunities in MA:

Contact Eric Seaborn

eric.seaborn@state.ma.us

617-626-1468

Elsewhere, contact your state
Urban and Community
Forestry Program

Where to get assistance

- IPED data
  - Contact your state urban and community forestry program for guidance
  - University Cooprative Extension
  - **When in doubt—reach out!**
- www.itreetools.org
  - Lots of resources there—users forum, manuals and workbooks, support
- In Massachusetts, contact the MA-Department of Conservation and Recreation, Urban & Community Forestry Program

Streets Helps You:

- Justify and leverage funds
- Highlight benefits to public & decision makers
- Plan, prioritize, and budget
- Benchmark progress
- Build partnerships

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U.S. Forest Service
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MA-DCR, Urban and Community Forestry
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dcr
Massachusetts