Comparison of Urban Forest Inventory & Management Software Systems[1]

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Background

In 1997, Olig and Miller published *A Guide to Street Tree Inventory Software*, providing a comparison of software providers, customization options, and data-entry time estimates for each software. After twelve years much of the information is outdated due to the rapid development of new technology and software upgrades. In 2006, the University of Florida held an Urban Forest Inventory Systems Symposium. This meeting brought together a suite of urban forest professionals to share their considerations when selecting tree inventory software systems and how these systems facilitated their management efforts (Andreu et al 2007). During this symposium it became apparent that an updated resource for selecting a tree inventory software system was needed. Coincidentally, in 2007, the US Forest Service published *Tree Inventory and Management Software* (USFS 2007), which provided a brief one-paragraph description of each of the software systems available at the time.

Introduction

This extension publication examines many of the tree inventory software systems available as of 2009. It provides up-to-date information about previously existing tree inventory software systems as well as those recently launched. However, the list of software systems provided here is not comprehensive, as we only included companies that we were able to successfully interview. The information provided in this publication has been reviewed and approved by each inventory system software provider. As a result, this synthesis pulls together more details of

> Ideally the software system will *support* and not *dictate* a user's management objectives and activities.

tree inventory software systems than previously available in one document.

When selecting a tree inventory software system, it is important to assess the user's needs and objectives so that the proper system can be chosen. Ideally the software system will *support* and not *dictate* a user's management objectives and activities. Below are some factors to consider when selecting a tree inventory software system:

- What types of questions is the inventory going to answer?
- Who is responsible for managing the urban forest inventory system?
- Are the software and data export files compatible with other software systems that are commonly used?
- How much training time is required and how much does it cost?
- What kind of upgrades and technical support does the software company offer?

For the purposes of comparing the features and capabilities of various tree inventory software systems, we have provided information in four tables. These tables are designed to allow managers to quickly assess which software systems offer the features they desire. Brief summaries, or 'mini spec sheets,' for each inventory system follow to provide additional information, such as typical clients/user types, upcoming upgrades, software costs, technical support, and contact information.

Guide to Tree Inventory Software Comparison Tables

Table 1 provides a comparison of the features and capabilities of each software system. The *Customizable Data Fields* and *Customizable Reports* features indicate which system allows users to tailor the software system design and data format to meet their data collection or analysis needs. The *Work Order Generation* and *Track Maintenance* features allow managers to document and manage tree maintenance and field crew schedules. Some systems include a geographic information system or *GIS Component*, which allows users to view their tree data and create maps. The *Tree Valuation* field indicates which systems have a tree valuation

component. The *Photographs, Sketches or Diagrams* field indicates the ability to attach image files to a tree record in the inventory. The *Inventory Other Assets* field indicates which systems can manage other assets beyond trees (e.g. street signs, park benches, utilities). The *Sync with Field Devices* field indicates which systems allow users to synchronize their field data collection devices (e.g. personal digital assistant) with their personal computers for data transfer. The *Web-based Software* field indicates which software operates via the Internet. And lastly, the *Network Installation* field simply indicates that the software can be installed on a network for multiple users.

Table 2 provides a comparison of the various self explanatory data fields that can be customized: *species list, maintenance recommendations, work areas/neighborhoods,* and *appearance.*

Table 3 designates the types of Geographic Information Systems (GIS) components that are utilized by each software system: *ESRI-Compatible, ESRI GIS System, Non-ESRI Mapping or GIS System*. Additionally, it provides information about which software systems allow tree attribute data to be modified (*Modify Tree Data in GIS Mode*), and which systems allow users to alter the spatial coordinates of trees while in the GIS mode (*Manually Edit Trees in GIS Mode*).

Table 4 illustrates the operating system requirements for each software system: *Windows 98, Windows 2000, Windows XP, Windows Vista, Mac OS X,* and *Linux*. The *Internet-based* column indicates which software systems are only accessible via Web browser. This means that the software system cannot be installed on a local hard drive or intranet, and therefore requires an Internet connection.

Table 1. Comparison of software capabilities and features.

Software & Features	Customizable Data Fields [1]	Work Order Generation	Track Maintenance	Customizable Reports	GIS Component [2]	Tree Valuation	Inventory other Assets	Photographs, Sketches or Diagrams	Sync with Field Devices	Web-based Software	Network Installation	COSTS
ArborAccess	●	●	●	●	●	●	●	●		●		**See Spec Sheet**
ArborPro	●	●	●	●	●	●	●	●	●		●	**$5,000 +** [†]
ArborSoftWorx *C*		●	●	●	●	●	●	●	●		●	**$1,000 +**[†]
ArborSoftWorx *M*		●	●	●	●	●	●	●	●		●	**$1,500 +**[†]
ArborVue	●	●	●	●	●	●		●	●		●	**$2,995 +**[†]
Asset Manager	●	●	●	●	●		●	●	●			**$3,300**
i-Tree (*Streets*)	●		●			●	●					**Free**
i-Tree (*Eco*)					●	●						**Free**
PDM-O***	●	●	●		●	●	●	●	●	●		**$1,000-3,000/year**
Silvibase 5.1	●	●	●	●		●		●	●			**$2,000-3,000**
Tree Keeper 7.6	●	●	●	●	●	●	●	●	●	●	●	**See Spec Sheet**
Trees in the Hood	●	●	●	●	●	●	●	●	●		●	**Free +**[†]
TreeWorks	●	●	●	●	●	●	●		●		●	**See Spec Sheet**
Trims	●	●	●	●					●		●	**$1,495 +**[†]
UFIS ****	●	●	●	●	●	●	●		●			**$6,000**

* **ArborSoftWorx *Commercial***

** **ArborSoftWorx *Municipal***

*** **Point DataMap-Online**

**** **Urban Forest Inventory Systems**

[1] **See Table 2 for a further comparison of customizable data fields.**

[2] **See Table 3 for further comparisons of GIS features.**

[†]**The + indicates that there is an annual support package or maintenance fee in addition to the base price.**

Table 2. Comparison of data field customization.

Customizable Data Fields	ArborAccess	ArborPro	ArborVue	AssetManager	i-Tree (Street)	PDM-O *	Silvibase 5.1	TreeKeeper 7.6	Trees in the Hood	TreeWorks	Trims	UFIS **
Species List		●	●	●	●	●	●	●	●	●	●	●
Maintenance Recommendations	●	●	●	●	●	●	●	●	●	●	●	●
Work Areas/Neighborhoods	●	●	●	●	●	●	●	●	●	●	●	●
Appearance (skins)	●	●	●	●		●			●	●		●

* Point DataMap-Online

** Urban Forest Inventory Systems

Table 3. Comparison of GIS components.

GIS Components	ArborAccess	ArborPro	ArborSoftWorx C *	ArborSoftWorx M **	ArborVue	AssetManager	i-Tree (Eco)	PDM-O ***	TreeKeeper 7.6	Trees in the Hood	TreeWorks	UFIS ****
ESRI Compatible	●	●	●	●	●	●		●	●	●	●	●
ESRI GIS System					●	●			●		●	
Non-ESRI Mapping or GIS System	●	●	●	●			●	●				●
Modify Tree Data in GIS Mode		●			●	●		●	●	●	●	●
Manually Edit Trees in GIS Mode		●			●	●		●	●	●	●	●

* ArborSoftWorx *Commercial*

** ArborSoftWorx *Municipal*

*** Point DataMap-Online

**** Urban Forest Inventory Systems

Table 4. Comparison of Operating Systems (OS) Compatibility.

Software OS Requirements	Windows 98	Windows 2000	Windows XP	Windows Vista	Mac OS X	Linux	Internet-based
ArborAccess							●
ArborPro	●	●	●	●			
ArborSoftWorx C*	●	●	●	●		●	
ArborSoftWorx M**	●	●	●	●		●	
ArborVue			●	●			
Asset Manager	●	●	●	●			
i-Tree (Street)		●	●				
i-Tree (Eco)		●	●				
PDM-O***							●
Silvibase 5.1		●	●				
Tree Keeper 7.6							●
Trees in the Hood	●	●	●	●	●		
TreeWorks		●	●	●			
Trims		●	●	●			
UFIS ****	●	●	●				

* ArborSoftWorx *Commercial*

** ArborSoftWorx *Municipal*

*** Point DataMap-Online

**** Urban Forest Inventory Systems

The following pages include
Individual Tree Inventory Software Spec Sheets
For detailed technical specifications, visit vendor Web sites.

ArborAccess©

Introduction to Software

ArborAccess Online is an internet-driven software developed by tree care professionals at West Coast Arborists, Inc. (WCA). It is accessible only to WCA clients, who are primarily municipalities in California. ArborAccess can be customized to the needs of each WCA client. According to West Coast Arborists, it can store an unlimited number of tree records.

Services

- ❖ Tree Inventories
- ❖ Tracks Maintenance History
- ❖ GIS Mapping
- ❖ Budget Projections
- ❖ Basic Tree Appraisals

Additional Information

An upgraded version of ArborAccess is projected to be available by 2009. This version will be an ArcIMS compatible system. It will allow users to interact with and modify the inventory data through the database and/or the GIS maps via the Internet.

Operating System Requirements

Internet Connection and Web browser (*e.g.* Internet Explorer 5.5 or greater)—ArborAccess does not require additional hardware, memory, or software; as it is stored on WCA's server and functions remotely.

Software Costs

The cost of ArborAccess is included in municipal contracts. Contact WCA for further details.

Technical Support

WCA offers unlimited training and support to their clients. Periodic workshops are offered for larger groups or after software upgrades have occurred. WCA's Area Managers are also available to assist clients on an as-needed basis.

Contact Information

West Coast Arborists, Inc.
2200 East Via Burton Street
Anaheim, CA 92806
Phone: 1-800-521-3714
Fax: 1-714-956-3745
Email: info@wcainc.com
Web site: http://www.wcainc.com

ArborPro

Introduction to Software

ArborPro was developed and is distributed by ArborPro Management Software. ArborPro is a tree management software designed to manage trees, the landscape, and physical assets. It is used by municipalities, parks, campuses, and golf courses. ArborPro has been tested and is able to store over a million tree records.

Services

- ❖ Tree Inventories
- ❖ Tracks Maintenance History
- ❖ GIS Mapping
- ❖ Tree Hazard Assessments
- ❖ Crew Management Program
- ❖ Budgeting

Additional Information

ArborPro has a new measuring tool that allows clients to see the distance between two assets on the map. For example, planting distance between trees, distance from trees to park assets or buildings, and tree canopy spreads can be measured.

Operating System Requirements

Windows 98, Windows 2000, Windows XP, or Windows Vista

Software Costs

The base price for ArborPro is $5,000.

Technical Support

After the initial purchase of ArborPro, 2 eight-hour training sessions are available free of charge: (1) initial training session, (2) focused training session. ArborPro also offers an optional annual support package (includes upgrades) for $1,500.

Contact Information

ArborPro, Inc.
P.O. Box 4096
Newport Beach, CA 92661-4096
Phone: 1-877-844-DATA (3282)
Fax: 1-714-694-1981
Email: info@arborprousa.com
Web site: http://www.arborprousa.com

ArborSoftWorx® *Commercial*

Introduction to Software

ArborSoftWorx was developed and is distributed by Creative Automation Solutions, Inc. ArborSoftWorx *Commercial* is primarily a customer and business management software. It is designed for arbor, landscape, and plant health care companies.

Services

- ❖ Customer Relationship Management
- ❖ Business Management (accounting, invoicing, and receivables)
- ❖ Scheduling, Routing, and Mapping of Field Crews
- ❖ Chemical Tracking and Reporting
- ❖ Property Inventory
- ❖ Company Asset Management
- ❖ Personnel Management

Additional Information

ArborSoftWorx can support single office operations and/or multiple branch offices. Data and reports can be exported into all Microsoft, Corel, and Lotus Office suites. Creative Automation Solutions, Inc. also offers data conversions into i-Tree.

Operating System Requirements

Windows 98, Windows 2000, Windows XP, Windows Vista, or Linux

Software Costs

The base price for a single user is $1,000. Additional features are available; the price will vary depending on how many additional features the client requests. Contact a sales associate for network system prices.

Technical Support

On-site installation and training is available. An additional support package that includes upgrades is available to clients but the cost varies depending on the number of computers.

Contact Information

Creative Automation Solutions, Inc.
10500 Old Court Rd.
Woodstock, MD 21163
Phone: 1-800-49-ARBOR (2-7267) or
                     1-410-461-5858
Fax: 1-410-465-3593
Email: Sales@ArborSoftWorx.com
Web site: http://www.arborsoftworx.com

ArborSoftWorx® *Municipal*

Introduction to Software

ArborSoftWorx was developed by and is distributed by Creative Automation Solutions. ArborSoftWorx *Municipal* is an inventory and asset management software. It is designed for counties, cities, townships, campuses, parks, and estates.

Services

- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ Track Service Calls
- ❖ Scheduling, Routing, and Mapping of Field Crews
- ❖ Tree Risk and Hazard Assessments
- ❖ Chemical Tracking and Reporting
- ❖ GIS Mapping
- ❖ Budgeting

Additional Information

Data and reports can be exported into all Microsoft, Corel, and Lotus Office suites. Creative Automation Solutions, Inc. also offers data conversions into i-Tree.

Operating System Requirements

Windows 98, Windows 2000, Windows XP, Windows Vista, or Linux

Software Costs

The base price for a single user is $1,500. Contact a sales associate for network system prices.

Technical Support

On-site installation and training is available.

Contact Information

Creative Automation Solutions, Inc.
10500 Old Court Rd.
Woodstock, MD 21163
Phone: 1-800-49-ARBOR (2-7267) or
                     1-410-461-5858
Fax: 1-410-465-3593
Email: Sales@ArborSoftWorx.com
Web site: http://www.arborsoftworx.com

ArborVue

Introduction to Software

ArborVue was developed and is distributed by The Laurus Group. It is a tree inventory management software designed for urban tree managers. According to The Laurus Group, ArborVue can store an unlimited number of tree records.

Services

- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ GIS Mapping
- ❖ Budgeting
- ❖ Tree Damage Evaluations

Additional Information

ESRI's ArcGIS Engine Runtime and/or ArcPad 7 are included in the ArborVue software package. Therefore, ArborVue clients do not have to purchase additional ESRI products to run this software.

ArborVue's database uses SQL Server/SQL Server Express. SQL Server Express is included with the purchase of ArborVue (supports up to 10 concurrent users) but if more users are needed, SQL Server is available. Database hosting is also available for clients who do not wish to maintain SQL Server/SQL Server Express.

Operating System Requirements

Windows 200, Windows XP, or Windows Vista

Software Costs

The base price for ArborVue is $2,995.

Technical Support

The first year of technical supports and upgrades are included in the base price. Afterwards, it is $495/year for additional support and future upgrades. ArborVue offers multiple upgrades each year.

Contact Information

The Laurus Group, LLC.
4912 Bayshore Drive
Seneca, SC 29672
Phone: 1-864-654-8733
Fax: 1-864-654-8889
Email: arborvueinfo@arborvue.com
Web site: http://www.arborvue.com

Asset Manager

Introduction to Software

Asset Manager was developed and is distributed by Davey Resource Group. Asset Manager is a map-based management software designed to help municipalities, golf courses, college campuses, and even amusement parks to manage a variety of assets. Some of these assets include: trees, planting areas, turf areas, greens, fairways, drains, irrigation lines, hydrants, and valves.

Services

- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ GIS Mapping
- ❖ Budgeting

Additional Information

Asset Manager stores data in ESRI shape files. Data can also be exported to a comma delimited text file, which can then be imported to spreadsheet and database applications.

Operating System Requirements

Windows 98, Windows 2000, Windows XP, or Windows Vista

Software Costs

The base price for Asset Manager is $3,300.

Technical Support

There are two options for technical support: 1) a one day on-site training is available for $1,300, or 2) one year of unlimited support is available for $1,000.

Contact Information

Davey Resource Group
1500 N. Mantua St.
PO Box 5193
Kent, OH 44240-5193
Phone: 1-800-828-8312
Fax: 1-330-673-0860
Email: gis@davey.com
Web site: http://www.davey.com/software

i-Tree

Introduction to Software

i-Tree was developed by the USDA Forest Service, Davey Tree Expert Co., National Arbor Day Foundation, Society of Municipal Arborists, and the International Society of Arboriculture. In the public domain and freely accessible, i-Tree is a software suite that allows managers to analyze and assess the environmental and aesthetic benefits of their urban and community forests. The suite contains two urban forest analysis tools: *Eco* (formerly *UFORE*) for ecosystem level assessments of the entire urban forest; and *Street* (formerly *STRATUM*) for municipal street tree assessments alone.

Services

❖ Tree Inventories
❖ Track Maintenance History
❖ Tree Hazard and Risk Assessments
❖ Budgeting
❖ Insect and Disease Assessments
❖ Environmental and Aesthetic Benefit Assessments
❖ Ice/Wind Storm Assessments

Additional Information

Street is designed for analyzing street tree populations, not the entire urban forest. *Street* quantifies the annual environmental and aesthetic benefits, as well as the property value increase from street trees. It can be used to compare canopy cover for different neighborhoods, species diversity, tree conflicts and maintenance needs, as well as species performance. New or existing inventories can be formatted for *Street* compatibility.

Eco is designed for analyzing the entire urban forest at the ecosystem level. *Eco* calculates urban forest structure, function, and value using area-based field sampling combined with local air quality and weather information. The urban forest can be examined at any scale and can be stratified (e.g. land-use types).

i-Tree is on a continuous development cycle. In spring of 2009, i-Tree 3.0 was released, enhancing functionality, uniformity, and integration for improved utility.

Operating System Requirements

Windows XP or Windows Vista

Software Costs

i-Tree is a public domain software, distributed at no cost.

Technical Support

i-Tree offers support online, on the phone, or through a user forum. The i-Tree User Forum is a moderated discussion forum that allows users to seek solutions to technical questions, communicate their experiences, and/or view frequently asked questions (FAQs).

Contact Information

i-Tree
1500 N. Mantua St.
Kent, OH 44240
Phone: 1-877-574-8733
Email: info@itreetools.org
Web site: http://www.itreetools.org

PDM-O™ – Point DataMap Online

Introduction to Software

PDM-O was developed and is distributed by StrataPoint, Inc. PDM-O is an internet-driven grounds and tree management software developed for municipalities, golf courses, and campuses. Since it is a web-based technology it can accommodate multiple concurrent users. According to StrataPoint, PDM-O can also store an unlimited number of tree records.

Services

❖ Tree Inventories
❖ Track Maintenance History
❖ GIS Mapping
❖ Tree Risk Assessment
❖ Tree Crown/Shade Profiling
❖ Chemical Tracking
❖ Irrigation Management

Additional Information

PDM-O facilitates turfgrass management by providing managers with a profile of each tree's crown and its shade profile.

Operating System Requirements

Internet connection and Web browser (Internet-based software)

Software Costs

Clients can subscribe to PDM-O for $1,000–$3,000 per year. Contact a sales associate for more information.

Technical Support
Free online and phone technical support is available to subscribers.

Contact Information
Phone: 1-651-322-4000
Fax: 1-651-322-5747
Email: sales@stratapointinc.com or info@stratapointinc.com
Web site: http://www.stratapointinc.com

Silvibase 5.1

Introduction to Software
Silvibase 5.1 was developed and is distributed by Natural Resource Planning Services, Inc. Silvibase 5.1 operates on a run-time version of Microsoft Access and is intended for small municipalities that do not need additional capabilities, such as GIS.

Services
- ❖ Tree Inventories
- ❖ Maintenance Plans
- ❖ Production Monitoring

Additional Information
Tree data can be directly exported into ArcView. Note: Silvibase 5.1 does not have a built-in mapping component. Additionally, it is not necessary to purchase Microsoft Access, since Silvibase 5.1 operates on a run-time version of Microsoft Access. Silvibase 5.1 also works with Windows CE and ArcPad on portable field devices.

Operating System Requirements
Windows 2000 or Windows XP

Software Costs
The base price for Silvibase 5.1 ranges from $2,000–$3,000, which includes the initial training and set-up.

Technical Support
Available via phone and email, free of charge.

Contact Information
Natural Resource Planning Services, Inc.
5700 SW 34th St. Suite 324
Gainesville, FL 32608
Phone: 1-352-378-8966
Fax: 1-352-336-4877
Email: DaveF@nrpsforesters.com
Web site: http://www.nrpsforesters.com

TreeKeeper® 7.6

Introduction to Software
TreeKeeper 7.6 was developed and is distributed by Davey Resource Group. TreeKeeper 7.6 is an internet-driven tree management software intended for municipalities. It is a web-based technology and can be accessed from home, offices, and anywhere with internet capabilities.

Services
- ❖ Tree Inventories
- ❖ Tracks Maintenance History
- ❖ Tracks Service Calls
- ❖ GIS Mapping
- ❖ Tree Hazard Assessments and Valuations

Additional Information
Davey Resource Group offers clients an unlimited amount of data field customization, as well as a wide range of report customization. TreeKeeper 7.7 is projected to be released by the time this document has been published. A fully functioning demonstration of TreeKeeper 7.6 is available at *treekeeperonline.com*

Operating System Requirements
Internet connection and Web browser (Internet-based software)

Software Costs (3 options for deployment)
1. *Standalone* – TreeKeeper® 7.6 is installed locally on a PC and can only be accessed on this computer. There is a one time cost of $4,600 for small cities (pop. < 30,000), and $7,700 for larger cities (pop. > 30,000). Note: There is not a concurrent user option with this method and clients are responsible for their data. Upgrades range in cost.
2. *Network* – TreeKeeper® 7.6 is deployed on the client's server, accessed via the internet or intranet. There is a one time cost of $12,000. Note: This option allows for concurrent users and in the long-term (more than 6 years) it is less expensive than the subscription. Clients are responsible for their data and upgrades range in cost.
3. *Subscription* – TreeKeeper® 7.6 is accessed through Davey Resource Group's Web server. In the short-term this is the least expensive option, costing $2100 for a year subscription. There is a 3-year subscription available for $5,250. With the subscription method, data is backed up every night by Davey Resource Group and upgrades are free.

Technical Support

There are two options for technical support: 1) a one-day on-site training is available for $1,300, and 2) one year of unlimited support is available for $1,000.

Contact Information

Davey Resource Group
1500 N. Mantua St.
PO Box 5193
Kent, OH 44240-5193
Phone: 1-800-828-8312
Fax: 1-330-673-0860
Email: gis@davey.com
Web site: http://www.davey.com/software

Trees in the Hood™

Introduction to Software

Trees in the Hood was developed and is distributed by Natural-Path Urban Forestry Consultants. It is a free shareware designed to assist small communities, parks, golf courses, and campuses manage their trees. Trees in the Hood is based in Microsoft Access. According to Natural-Path Urban Forestry Consultants, it can manage an unlimited number of tree records.

Services

- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ GIS Mapping
- ❖ Production Monitoring
- ❖ Tracks Field Crews

Additional Information

The data fields for Trees in the Hood are set up to match *Street* (part of the i-Tree suite). Trees in the Hood offers tree analysis by family, genus, and species. Trunk formula appraisals are based on individual chapter parameters from the Council of Tree and Landscape Appraisers (CTLA).

Operating System Requirements

Windows 98, Windows 2000, Windows XP, Windows Vista, or Mac OS X

Software Costs

The software is free shareware. However, there is a set-up cost that varies depending on the client's needs. Contact the owner, Mark Duntemann, for more information.

Technical Support

Technical support is free for two years; subsequently there is a non-mandatory charge of $250 per year.

Contact Information

Natural Path Urban Forestry
PO Box 1753
Oak Park, IL 60304
Phone: 1-773-699-7284
Email: natpath@earthlink.net
Web site: http://www.naturalpathforestry.com

TreeWorks™

Introduction to Software

TreeWorks was developed and is distributed by The Kenerson Group. TreeWorks is a tree management software developed by a collaboration of GIS specialists and arborists. It is an extension to ArcGIS 9.x Desktop and ArcPad. TreeWorks is commonly used by municipalities, campuses and military bases. It has been shown to store over 500,000 tree records.

Services

- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ GIS Mapping
- ❖ Tree Risk and Hazard Assessment
- ❖ Tree Valuations
- ❖ Track Service Calls
- ❖ Production Monitoring

Additional Information

TreeWorks is an extension (toolbar) that operates inside of ArcGIS, therefore clients can use all of the ArcGIS functions and base layers to perform complex analysis. A check-in/check-out function allows clients to transfer their entire or select dataset(s) to their field devices. Furthermore, TreeWorks is fully customizable software—all data fields and reports can be modified to meet the client's needs.

Operating System & Special Requirements

Compatible with Windows 2000, Windows XP, or Windows Vista; ArcGIS is required.

Software Costs

The base price of TreeWorks is determined on a case by case basis depending on the customer's needs, contact a sales associate for more information. The base price includes free updates for the first year. Afterwards there is an annual maintenance fee of $600. This maintenance fee includes technical support

and the cost of upgrades. TreeWorks provides clients with at least two upgrades each year.

Technical Support
On-site training is available, as well as online and phone technical support.

Contact Information
The Kenerson Group
2342 Main Street
Athol, MA 01331
Phone: 1-978-249-6495
Fax: 1-978-249-4784
Email: info@kenersongroup.com
Web site: http://www.kenersongroup.com

TRIMS Tree Inventory

Introduction to Software
TRIMS Tree Inventory was developed and is distributed by TRIMS Software International, Inc. It is a tree inventory software developed for municipalities, golf courses, parks, businesses, and campuses. According to TRIMS Software International, it can store an unlimited number of tree records.

Services
- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ Production Monitoring
- ❖ Scheduling Field Crews

Additional Information
TRIMS Tree Inventory provides two different tree inventory systems: 1) *Municipal Street Tree Inventory* – trees are identified by the street address, and 2) *Golf Course & Park Tree Inventory* – trees are identified by a grid location or map. TRIMS Tree Inventory also comes with a 32-bit Open Database Connectivity allowing tree data files to be exported into Microsoft Excel, Access, and Word. TRIMS releases at least one upgrade per year to incorporate new technological and industry advances.

Operating System Requirements
Windows 2000, Windows XP, or Windows Vista

Software Costs
TRIMS Tree Inventory standard version comes as a 2-User Network System, priced at $1,495. There is an annual fee of $345 after the first year. Individual or

multiple user and site licenses are available. Contact a sales associate for more information.

Technical Support
Step-by-step installation instructions are provided for standalone systems, network workstations, and servers. The purchase of TRIMS Tree Inventory includes the first year of technical support, customer service and upgrades. After the first year, there is a $345 annual fee to continue technical support and upgrades for the standard 2-user network systems and a $445 fee for multi-user and network license systems.

Contact Information
TRIMS Software International, Inc.
8987 W. Olive, #117, PMB 68
Peoria, AZ 85345
Phone: 1-800-608-7467 or 1-623-266-1943
Fax: 1-602-266-1945
Email: info@trims.com
Web site: http://www.trims.com

Urban Forest Inventory System (UFIS)

Introduction to Software
The UFIS was developed by Natural Resource Consulting, Inc. and is now distributed by its sister company, Natural Resource Technologies, LLC. According to Natural Resource Consulting, Inc. it can store an unlimited number of tree sites.

Services
- ❖ Tree Inventories
- ❖ Track Maintenance History
- ❖ GIS Mapping
- ❖ Production Monitoring

Additional Information
UFIS mapping features operate on a MapInfo platform. Existing maps can be imported from AutoCAD, ArcView, and other popular formats. Data can be exported into the i-Tree suite for further analysis.

Operating System Requirements
Windows 98, Windows 2000, or Windows Vista

Software Costs
The base price for UFIS is $6,000. The cost for upgrades varies depending on the product and client's needs. Contact a sales representative for more information.

Technical Support
Technical support is available by phone or email at support@nrtech.com.

Contact Information
Natural Resource Technologies, L.L.C.
PO Box 780603
Tallassee, Alabama 36078
Phone: 1-888-848-2146 or 1-334-252-0744
Fax: 1-334-252-0654
Email: info@nrtech.com or sales@nrtech.com
Web site: http://www.nrtech.com

Acknowledgements

References

Andreu, M.G., R.J. Northrop, and M.H. Friedman. 2007. Proceedings of the urban forest inventory systems symposium, University of Florida – Plant City Campus Dec. 14, 2006. Seffner FL: Hillsborough County Extension - producer B. Lofland. (Audiovisual Material 3 Disc set.).

Olig, G.A and R.W. Miller. 1997. A Guide to Street Tree Inventory Software. http://www.na.fs.fed.us/ spfo/pubs/uf/streettree/toc.htm (accessed 3/6/2009).

U.S. Forest Service. 2007. Tree Inventory and Management Software. http://www.na.fs.fed.us/ urban/inforesources/inventory/InventorySoftware ListDetails.pdf (accessed 3/6/2009).