



TreeKeeper Online (TKO) was developed and is distributed by the Davey Resource Group based in Kent, Ohio. TKO is an Internet based tree inventory program that requires Internet access and an Internet browser such as Netscape Navigator or Microsoft Internet Explorer. Information about the number of communities using TKO is not available. The Davey Resource Group prefers to limit the sale of TKO to the United States.

Services

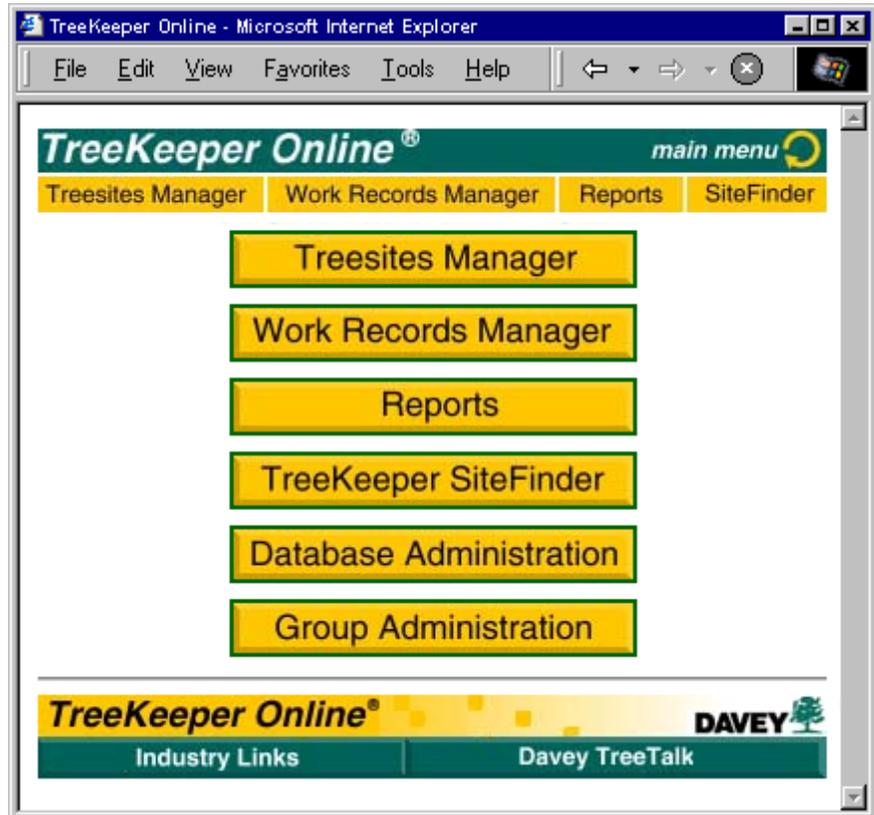
- Management plans
- Tree inventories
- Plant and soil testing
- Commercial applications testing
- Research and field evaluation
- GIS and GPS
- Production monitoring
- Communications technology

System requirements

PC:

- 486 Processor
- 16 MB of RAM
- Internet access
- Modem or Network Interface Card

TKO was primarily used on a Gateway™ G6-200 Pentium® Pro using Windows® NT. TKO was also used with Windows 98® on a Gateway™ G6-300 Pentium® II. Netscape Navigator 3; Netscape Communicator versions 4 and 4.5; and Internet Explorer versions 3, 4, and 5 browsers were used. TKO does not require local hard disk space for data storage since data are stored on a remote server.



▲ Figure 3.7.1: The TreeKeeper Online main menu page.

Software cost

TKO is purchased from the Davey Resource Group at a quarterly rate of \$285.00. An online demonstration program is available on the Davey web site.

Contact

Davey Resource Group
1500 North Mantua Street
P.O. Box 5193
Kent, OH 44240-5193

Phone: 1-800-447-1667
Email: info@davey.com
Internet: www.davey.com

Technical support

Online technical support is included with the quarterly program fee.



▲ Figure 3.7.2: Each TKO web page has the above header and footer image maps which contain links that lead to other web pages.

The **bold** text in the following description refers to page names. *Italicized* text refers to either field names or links.

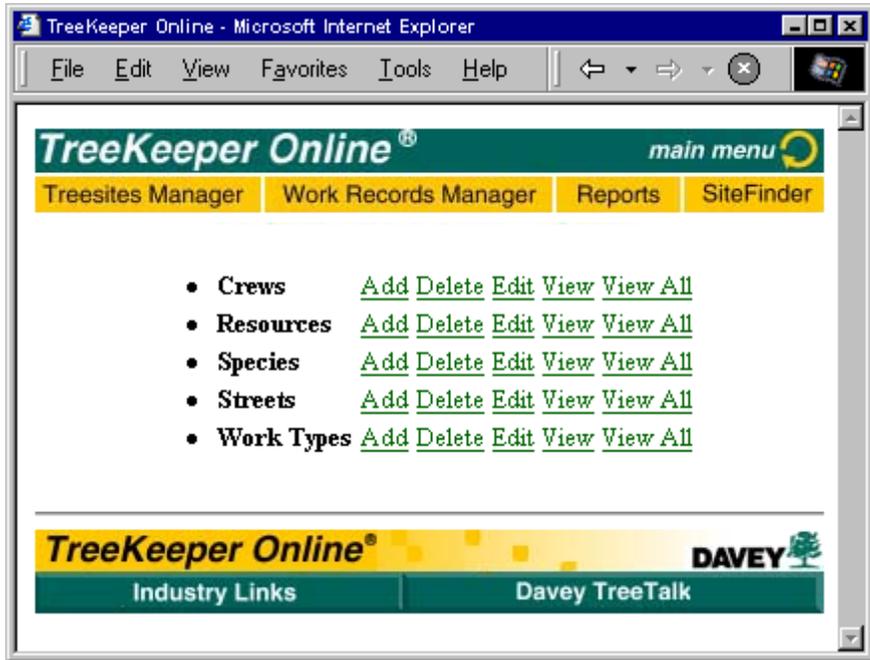
The **main menu** page contains *treesites manager*, *work records manager*, *reports*, *treekeeper sitefinder*, *database administration*, and *group administration* links (Figure 3.7.1). Each of these are described below.

Database administration

TKO databases are administered through the **database administration** page (Figure 3.7.3). *Crews*, *resources*, *species*, *streets*, and *work types* are added, deleted, edited, and viewed by following the underlined links on the **database administration** page.

Defining species

Either a *common* name, *botanical* name, or both can be entered for a



▲ Figure 3.7.3: *Crews*, *resources*, *species*, *streets* and *work types* are added, deleted, edited, and viewed from the **database administration** page.

▼ Figure 3.7.4: A *common* and *botanical* name, *trim cycle*, *amount*, and *species value* can be added for *species* in the **species database**.

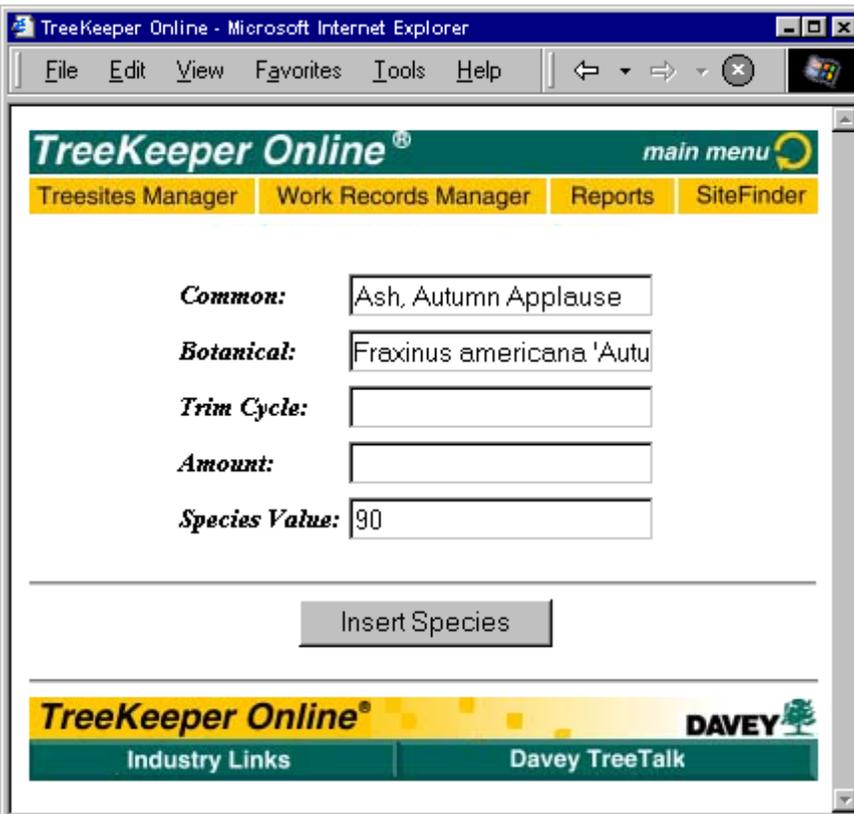
species on the **add species** page (Figure 3.7.4). Field length was not determined for most of the fields in TKO, however we were able to add at least a 50 character name into each of the fields. A *trim cycle*, *amount*, and *species value* (CTLA valuation) may also be entered.

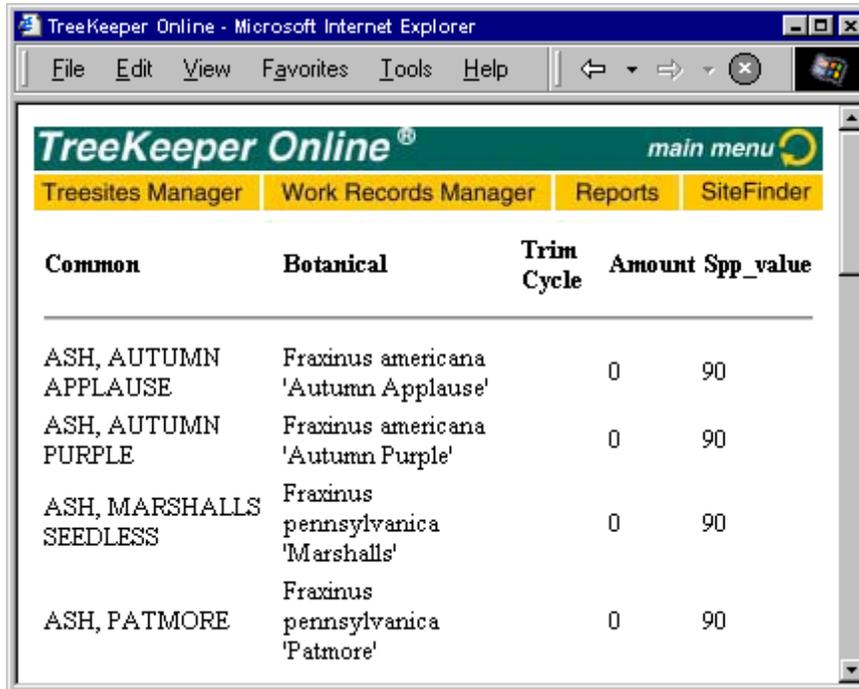
The *botanical* name, *trim cycle*, *amount*, and *species value* fields can be modified when editing *species*. A drop-down list is available for selecting *species* to edit. A drop-down list is also available for selecting *species* to delete.

Species information can be viewed either for a single *species* or for all *species*. A tabular format is used to list all *species* and their respective data on a single page which can be printed from the Internet browser (Figure 3.7.5).

Defining streets

Street names are also defined through the **database administration** page (Figure 3.7.3). Only a street name is entered, and a specific naming convention is not required (Figure 3.7.6).





Common	Botanical	Trim Cycle	Amount	Spp_value
ASH, AUTUMN APPLAUSE	Fraxinus americana 'Autumn Applause'	0	90	
ASH, AUTUMN PURPLE	Fraxinus americana 'Autumn Purple'	0	90	
ASH, MARSHALLS SEEDLESS	Fraxinus pennsylvanica 'Marshalls'	0	90	
ASH, PATMORE	Fraxinus pennsylvanica 'Patmore'	0	90	

Figure 3.7.5: A tabular layout of the species database, including common name, botanical name, trim cycle, amount, and species value, can be viewed and printed.

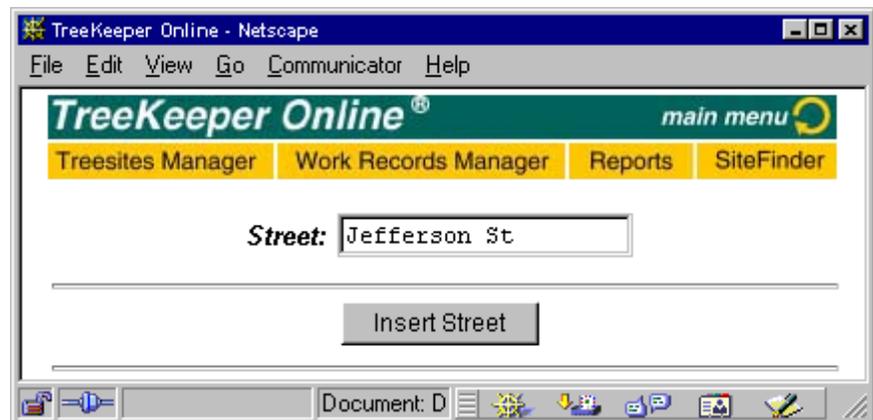
Figure 3.7.6: Only a street name is entered when defining streets. A specific naming convention is not required.

Defining resources and crews

Resources refer to both staff and equipment information, and are defined on the **add resource** page (Figure 3.7.7). Resource information that can be entered includes the *resource name*, *make*, *model*, and *year*, along with the date the resource was acquired and the resource hourly rate.

Crews are created after defining staff and equipment information. A *crew name* is entered along with a *crew rate* (Figure 3.7.8). Up to eight *staff* members and *equipment* names can be designated to a crew, each being selectable from a drop-down list.

Figure 3.7.7: Resources (either staff or equipment) and their information can be defined.



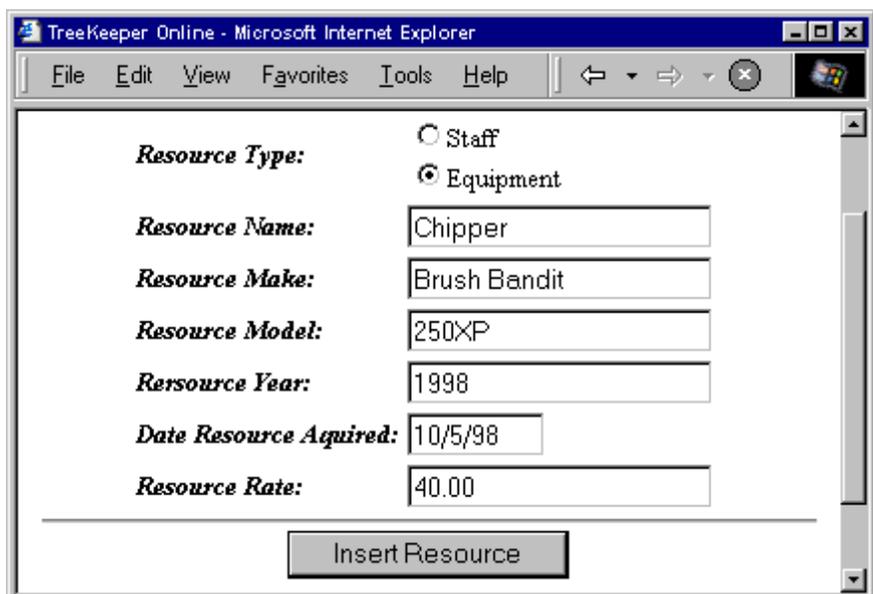
TreeKeeper Online - Netscape

File Edit View Go Communicator Help

TreeKeeper Online® main menu

Treesites Manager Work Records Manager Reports SiteFinder

Street:



TreeKeeper Online - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Resource Type: Staff Equipment

Resource Name:

Resource Make:

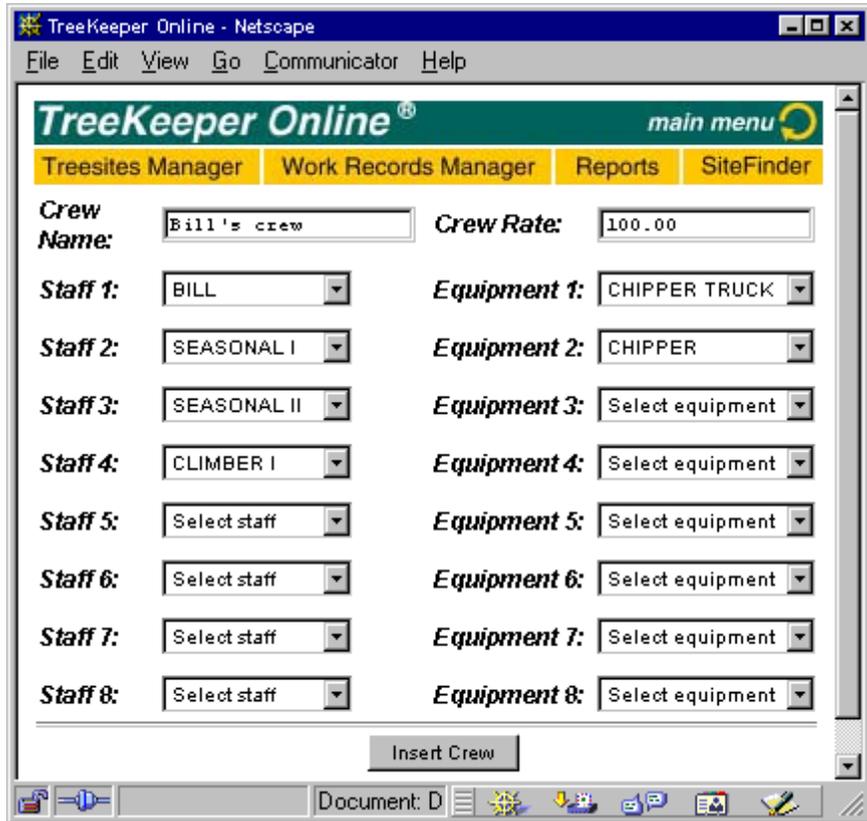
Resource Model:

Resource Year:

Date Resource Acquired:

Resource Rate:

Figure 3.7.8: Crews are created by selecting staff and equipment names from drop-down lists.



Defining work types

Work type information is defined on the **add work type** page (Figure 3.7.9). Both a *primary* and *secondary* worktype description are entered. The former is a general description and the latter a specific description of the work type. Fields are provided for entering an *amount*, *cost*, and *time*.

Defining users

The **group administration** page contains links for adding, deleting, and listing users, and also contains links for changing existing user passwords and permissions (Figure 3.7.10). The **add user** page allows for defining user information, including the *user* name, *password*, *permissions*, *email address*, *street address*, *city*, *state*, and *zip* code (Figure 3.7.11). Access permissions can be set for both tree sites and work records. Access privileges for searching, adding, editing, and deleting these databases can be set.

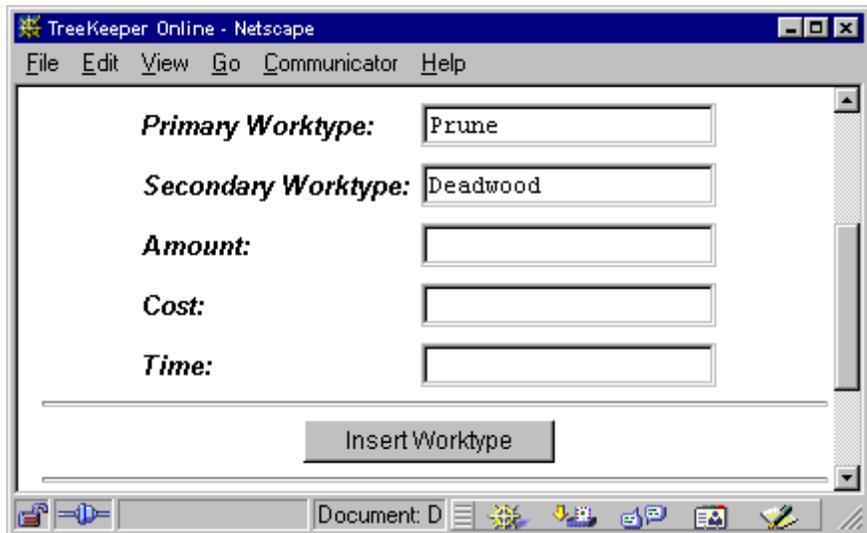


Figure 3.7.9: Primary and secondary worktypes along with their amount, cost, and time are defined on the add work type page.



Figure 3.7.10: Users are added and deleted, and permissions and passwords are changed through the group administration page. Certain drop-down list values are customized through this page.

Add User

User:

Full Name:

Password:

Password: again for verification

IP Mask: (may be a prefix to allow a group or blank for any)

	Tree Sites	Work Records
Permissions:	<input checked="" type="checkbox"/> Search	<input checked="" type="checkbox"/> Search
	<input checked="" type="checkbox"/> Add	<input checked="" type="checkbox"/> Add
	<input checked="" type="checkbox"/> Edit	<input checked="" type="checkbox"/> Edit
	<input checked="" type="checkbox"/> Delete	<input checked="" type="checkbox"/> Delete

E-mail address:

Street Address:

City:

State:

Zip:

Figure 3.7.11: User information and permission settings are defined on the add user page.

Figure 3.7.12: Data field drop-down lists are customized through the customize group settings page. Certain fields can also be hidden on the data entry page.

Customize Group Settings

Select a field to modify:

Field	Type
Area (Area)	Not Visible Make Visible
Dbh (Dbh)	Selection
Gisno (Gisno)	Not Visible Make Visible
Side (Locsubunit)	Selection
Width (Terrace) (BLSD)	Entry Box Hide Field
Condition (COND)	Selection
Util (CONDUCTORS)	Selection
Height (HT)	Selection
Maintenance (MT)	Selection
Comments (NOTES)	
Loc% (STAFF)	Hidden Make Visible

Defining groups

Groups refer to data fields that contain drop-down list selections. *Maintenance, height, utilities, condition, tree location,* and *DBH* field list selections can be customized through the **customize group settings** page (Figure 3.7.12). TKO also allows for hiding certain fields such as management *area, terrace width,* and *location* value (CTLA valuation) on the data entry page. Figure 3.7.13 indicates the customization page for *DBH*. Up to ten selections can be added to the *DBH* drop-down list, and the field name as it appears on the data entry page can be modified.

Figure 3.7.13: List selections can be customized for several data fields. The example shown is for *DBH*.

Adding tree sites

The **trebsites manager** page (Figure 3.7.14) is accessed from the **main menu page** (Figure 3.7.1) and contains links for adding, editing, and deleting both street and open space trees. The add street tree page is described below.

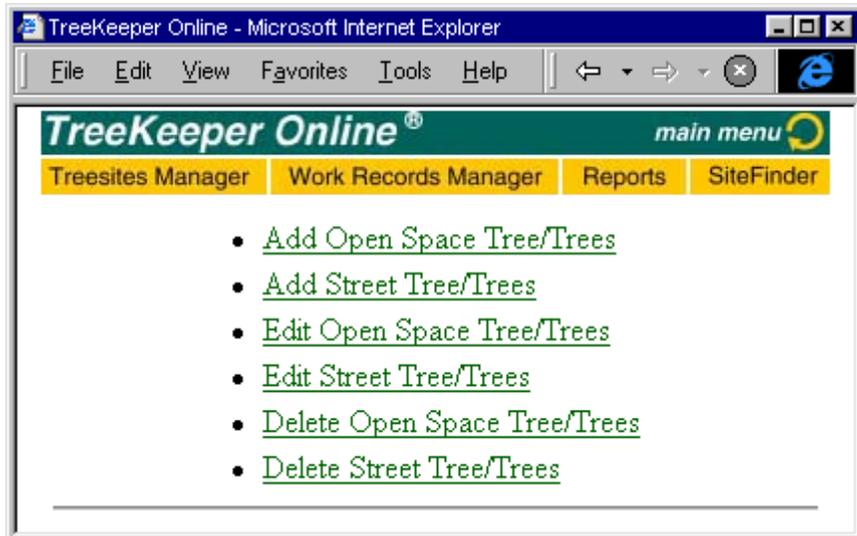
Required street tree fields include *address*, *street*, and *species* (Figure 3.7.15). Pick lists are not available for street fields, including the *on*, *from*, *to*, and *address* streets. Other location descriptor fields include *address* number, *extension*, *site* number, tree location (*side*), and *zip* code. Management *area* and *gisno* number (Geographic Information System identification number) fields are available but are hidden in the example shown. A drop-down list is available for the *side* field.

Tree descriptor fields include *species*, *DBH*, *condition*, and *height*, each of which has a drop-down list. Other fields include *inventory date*, *terrace width*, absence or presence of *utilities*, *maintenance* suggestions, and *comments*.

The **add open space** page (not shown) is similar to the **add street tree** page with exception to location descriptor fields. Location descriptor fields indicated on the **add open space** page include *area*, *unit*, *subunit*, and *site*. Drop-down lists are not available for these fields.

Editing tree sites

The **basic search** for street trees page contains eight data fields that can be used for searching the tree site database (Figure 3.7.16). These fields include *address*, *street*, *side*, *site*, *zip* code, and *on*, *from*, and *to* streets. A basic search is performed by entering data into any one field or a combination of these fields. An advanced search can be performed which includes all fields indicated on



▲ Figure 3.7.14: The tree sites manager page contains links for adding, editing, and deleting street and open space trees.

▲ Figure 3.7.15: All data fields for a tree site are located on one page, several of which have pick lists.

the **add street tree** page (Figure 3.7.15). The results of a search can be edited individually or globally, as shown in Figure 3.7.17. Location descriptor fields can not be modified when editing individually or globally selected trees. The editing page is similar to the **add street tree** page (Figure 3.7.15). When editing multiple trees, a field is first selected from a drop-down list and is then edited on a separate page. Editable fields for both individual and multiple edits include *zip code, species, inventory date, DBH, width, condition, utilities, height, maintenance, and comments.*

The **basic search** for open space trees page (not shown) is similar to Figure 3.7.16, with the exception that *area, unit, subunit, and site* fields are used. An advanced search can also be performed on open space trees.

Deleting tree sites

Open space and street tree sites must be searched in a similar fashion to that described above prior to deletion. A basic or an advanced search can be performed, and tree sites can be deleted either individually or globally.

▲ Figure 3.7.16: The basic search for street trees page contains eight data fields – any of which can be used to search the database.

Address	Street	Sd	Site	Species	Edit Tree Record
2324	CENTER ST	S	3	Maple, silver	
2324	CENTER ST	S	4	Elm, American	
2324	CENTER ST	S	5	Maple, silver	

▲ Figure 3.7.17: The results of a search can be edited individually or globally. Location descriptor fields for tree sites can not be modified.

Adding work records

The **work records manager** page contains links for adding, viewing, and finding work records (Figure 3.7.18). Either a *from* and *to address* or a *from* and *to street* are selected from drop-down lists after choosing a *street* (Figure 3.7.19). The same address number is used for both *from* and *to address* fields if a work order is to be added for one address. After these data are entered the selected sites are listed on a separate page, where undesired sites can be deselected (Figure 3.7.20). Listed site information includes *street name*, *address number*, *side*, *site number*, and *species*. A *request number*, *work date*, *work type* (status), *work needed*, and *crew* can be entered for the work record. The *work type* (status) can be either *scheduled*, *requested*, or *completed*. The *work needed* list box indicates both the *primary* and *secondary* worktypes.

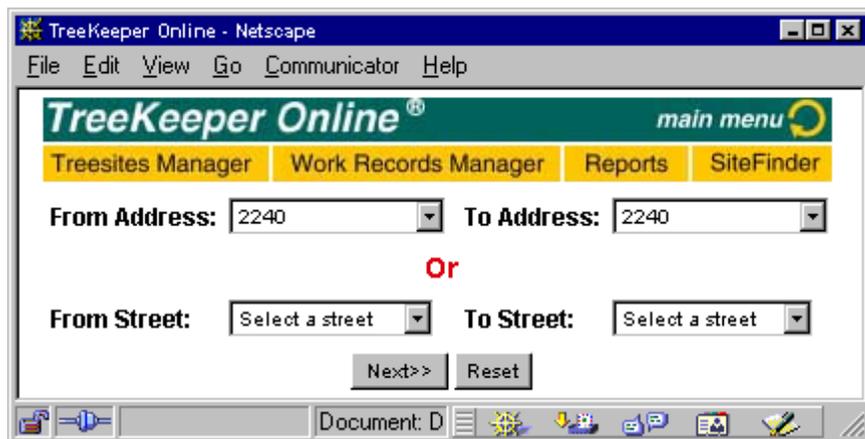
Viewing work records

The **work records manager** page contains a link for viewing all work records in the database (Figure 3.7.18). The **view work records** page contains a matrix of work record information including *date*, *work status*, *worktype*, *crew*, and *address* (Figure 3.7.21). Addresses are presented as links to pages that contain **work detail** information (Figure 3.7.22). Links are available on this page for viewing **work record details** (Figure 3.7.23), adding and editing work records, adding work requests, and viewing tree site information.

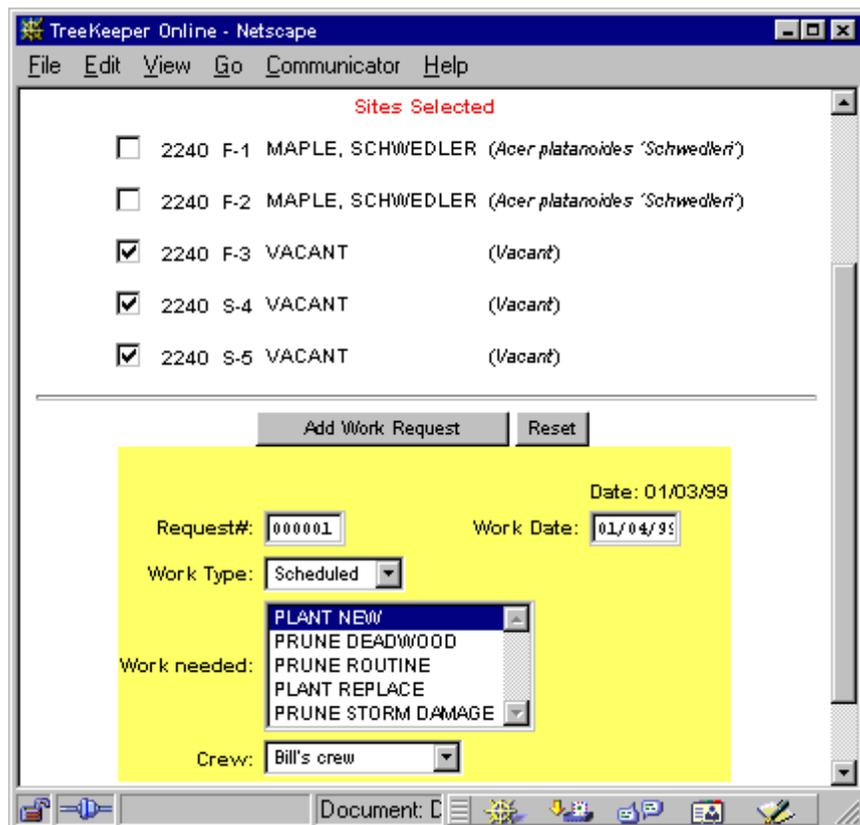
Figure 3.7.20: When adding a work record all addresses from a chosen address or street range are indicated on a single page. Information can be entered for either scheduled, requested, or completed work orders.

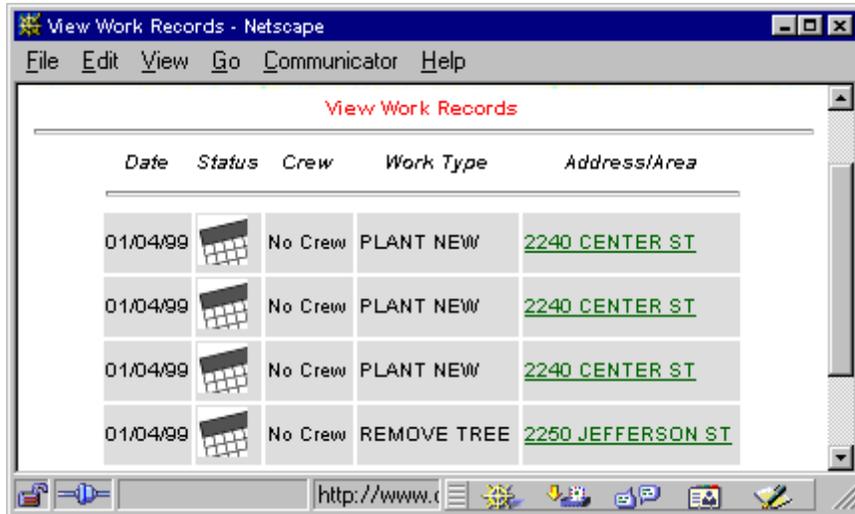


▲ Figure 3.7.18: Work orders are viewed, added, and searched through the work records manager page.

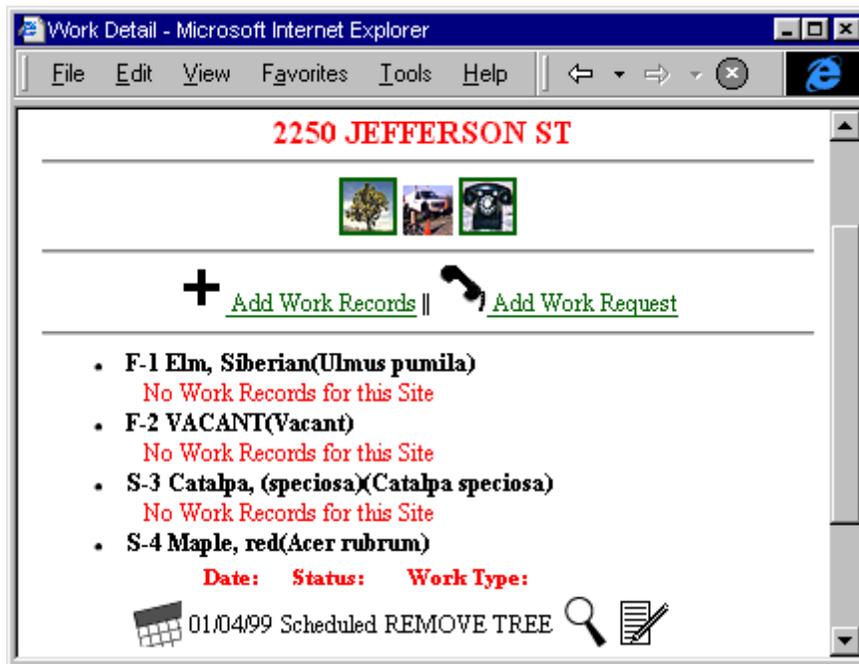


▲ Figure 3.7.19: Work orders can be added to either an address or street range. Identical from and to addresses are chosen when adding for a single address.





◀ Figure 3.7.21: Work record information for the entire database can be viewed on one page.



◀ Figure 3.7.23: The work record detail page contains work record information for a site, and contains links for adding work requests and viewing tree site information.

Adding work requests

Work requests are similar to work records with the exception that information can be entered pertaining to the customer or caller (Figure 3.7.24). The *name of customer, home and work phone*, and *property owner's name* can be entered. Two data fields are also available for recording the employee names that received the request. A text box is available for recording *comments*. Links on this page can be used for viewing tree information and work details at the selected site.

Searching work records

Work records are searched by using any one field or a combination of fields on the **find work records** page (Figure 3.7.25). These fields include *work type* (status), *crew*, and *primary and secondary worktype*.

TreeKeeper Online - Microsoft Internet Explorer

File Edit View Favorites Tools Help

2250 JEFFERSON ST

Select sites for which the customer would like to request work:

- F-1 Elm, Siberian (*Ulmus pumila*)
- F-2 VACANT (*Vacant*)
- S-3 Catalpa, (*speciosa*) (*Catalpa speciosa*)
- S-4 Maple, red (*Acer rubrum*)

Work Type: Requested Work Date: 01/04/99

Request#: 0000003

Work needed: PRUNE ROUTINE
PLANT REPLACE
PRUNE STORM DAMAGE
REMOVE TREE
REMOVE STUMP

Crew: Bill's crew

Name of customer: John Smith

Home phone:

Work phone: 346-4746

Property owner's name:

Request taken by: Gene Olig

Request taken by:

Comments:

Add Work Request Reset

TreeKeeper Online - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Work with a Status of: Scheduled

and assigned to: Any Crew

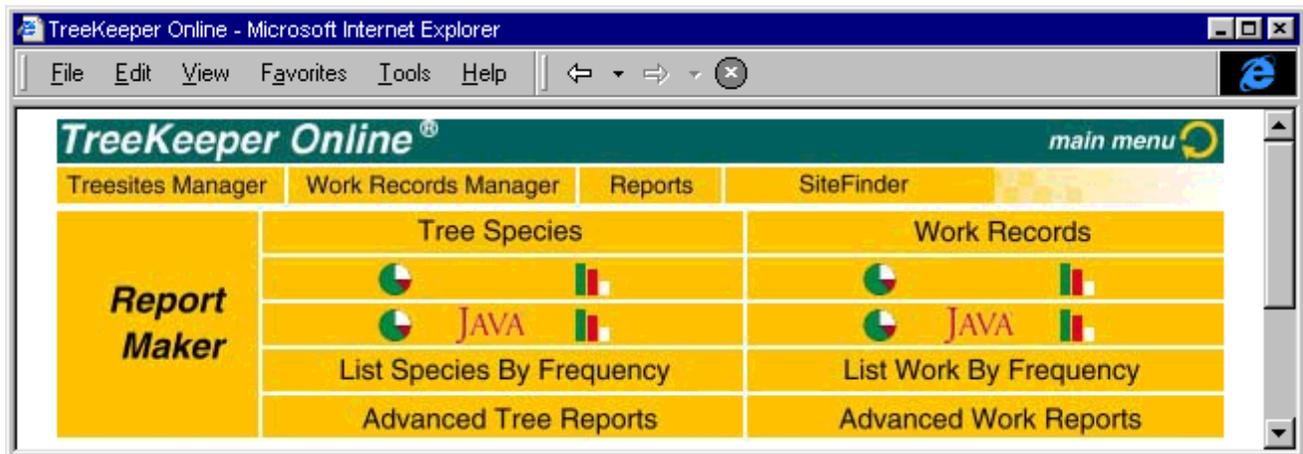
with a general Category of: PLANT

and a specific Work type of: NEW

Generate Report Reset Selections

▲ Figure 3.7.24: Work requests can be added for one or multiple sites at an address.

◀ Figure 3.7.25: Work records are searched using any one field or a combination of fields indicated on the find work records page.



▲ Figure 3.7.26: The report maker page contains links for generating either tree species or work record reports.

Reports

Reports for either tree species or work records are generated by using the links on the **report maker page** (Figure 3.7.26). Tree species reports include a list of trees by frequency along with a pie and bar chart of species by frequency. Work record reports include a list of work by frequency along with a pie and bar chart of work records by frequency. Advanced reports can be created for both tree species and work records.

Species frequency reports

The species frequency report contains a two column list of tree species and species counts (Figure 3.7.27). The total number of species and the total number of trees is indicated at the bottom of the page. Tree species are indicated as links, each of which leads to a page listing the addresses having the respective species (Figure 3.8.28). The links on this page allow for viewing, editing, or deleting tree sites along with viewing and adding work records and requests.

Figure 3.7.28: The species links on the tree frequency report open pages that list addresses having the respective species. ▶

VACANT
 154 |[Maple, red](#) 37 |[ASH, MARSHALLS SEEDLESS](#) 33 |[Elm, Siberian](#) 21 |[Maple, silver](#) 20 |[LILAC, JAPANESE TREE](#) 19 |[MAPLE, SCHWEDLER](#) 17 |[MAPLE, EMERALD QUEEN](#) 16 |[Elm, American](#) 13 |[Maple, amur](#) 12 |[ASH, AUTUMN APPLAUSE](#) 10 |[MAPLE, EMERALD LUSTRE](#) 9 |

▲ Figure 3.7.27: The tree frequency report includes species names, species counts, total number of species, and total number of trees.

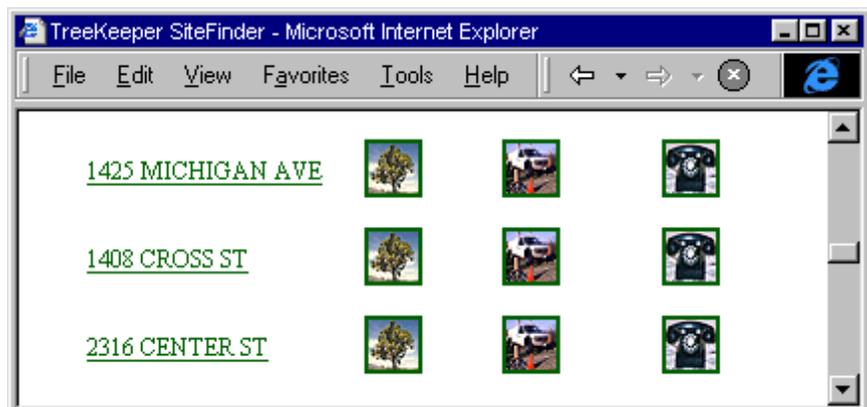
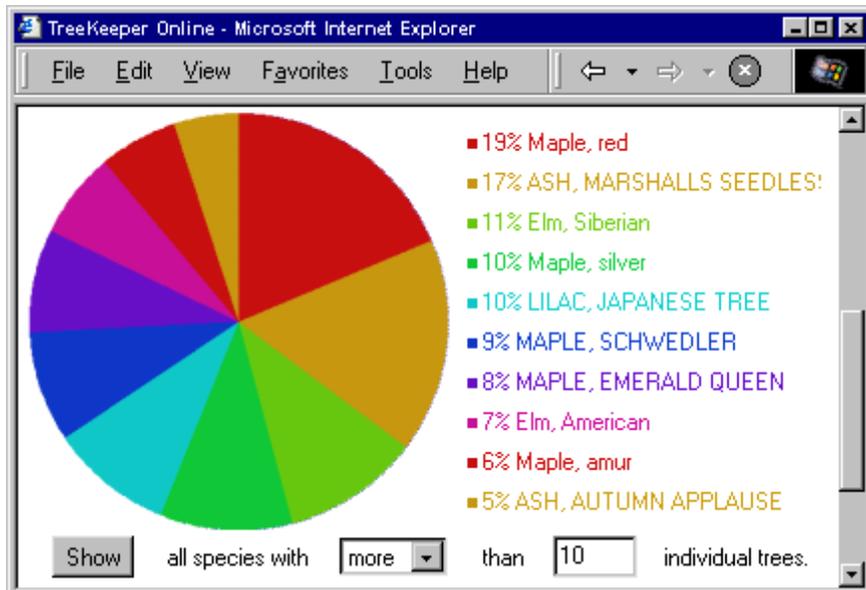


Figure 3.7.29: A pie chart indicating all species that have more than ten trees. The user can also create a chart by specifying a maximum number of trees for a species.



Species frequency reports can also be created as either pie or bar charts. Both graphical reports are created in the same manner, where the user specifies the minimum or maximum number of trees to be shown for all species. Figure 3.7.29 indicates a pie chart and associated percentages of all species that have more than ten trees. The pie chart wedges and species names are links that lead to pages listing the addresses with the respective species. The links on these pages allow for viewing, editing, and deleting tree sites along with viewing and adding work records and requests.

Work record frequency reports

The work record frequency report output is similar to the species frequency report output. This report indicates a list of work types and the number of occurrences for each work type. Work types are indicated as links which lead to their corresponding **view work record** page (Figure 3.7.21).

Advanced reports

The **advanced report** page contains several check boxes, drop-down lists, and text boxes used for creating reports (Figure 3.7.30). The upper portion of the page lists selectable fields to be included in the report output. Figure 3.7.30 indicates the *address*, *street*, *side*, and *site* fields as selected. If a specific field value is desired, a Boolean operation such as

Figure 3.7.30: A combination of check boxes, drop-down lists, and text boxes are used to create advanced reports.

equal to, not equal to, less than, or greater than can be used with a field name and a specified field value. The lower portion of the **advanced report** page is used to perform the query on the databases. Figure 3.7.30 indicates all *species equal to* American Elm (*Ulmus americana*) that have *condition values less than or equal to* poor. Either a simple report or a frequency report can be created. TKO allows for using up to two variables to sort the report by in either ascending or descending order. These include *street/area*, *address/unit*, *side/subunit*, *site*, *species*, and *condition*. The above example was sorted by *street* and then by *address*, both in ascending order (Figure 3.7.31).

Searching sites

TKO has a *SiteFinder* image map which contains links used for searching streets or areas in the database (Figure 3.7.32). The letters of the alphabet are indicated on the image map to serve as links to pages listing street names that start with the corresponding letter. Street name links lead to pages containing a list of all tree sites on the street, with the option to view the tree site, work record, and work request details. The *SiteFinder* contains a link that will list all streets or areas in the database on a single page. The *SiteFinder* also contains a link for performing an advanced search of tree sites by using Boolean operators with field names and values.

Street/Area	Address/Unit	Side/Subunit	Site	Species	Condition
CENTER ST	2324	S	4	Elm, American	Fair
CLARK ST	2101	F	2	Elm, American	Fair
CLARK ST	2117	F	2	Elm, American	Fair
CLARK ST	2125	F	2	Elm, American	Fair
CLARK ST	2125	F	3	Elm, American	Fair
CLARK ST	2257	F	1	Elm, American	Fair
FREMONT ST	1741	F	2	Elm, American	Fair
ILLINOIS AVE	1915	F	1	Elm, American	Poor
JEFFERSON ST	2148	S	3	Elm, American	Fair
LINCOLN AVE	2124	F	2	Elm, American	Fair
LINCOLN AVE	2124	F	3	Elm, American	Fair
LINCOLN AVE	2141	F	1	Elm, American	Fair
LINCOLN AVE	2133	F	1	Elm, American	Fair

13 Records
13 Trees

▲ Figure 3.7.31: The output of an advanced report containing specified fields sorted in ascending order.



▲ Figure 3.7.32: The SiteFinder is used for finding streets and tree sites in the database.