The heart of the SuperACE and FLIPS software systems is in the user interface screens. The software screens allow for greater flexibility and take advantage of the MS Windows™ operating system.

The user will first be presented with the Opening Screen for a selected project. This screen gives a list of all the stands stored within a project. Each of the stands has a Stand Information Screen associated with it. The Stand Information Screen contains a subset of dialog screens which handle different aspects of stand data compilation and editing. It is in these dialog screens that the user defined project Tables (see *Using Tables in SuperACE* booklet) are associated with stand data

Opening Screen

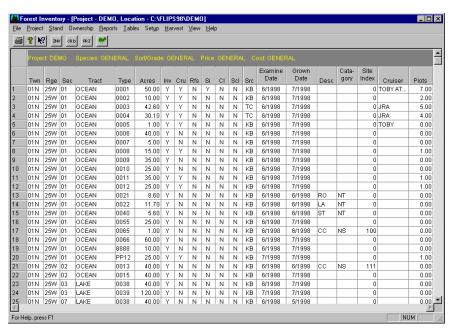
This is the first screen you see when you start SuperACE or FLIPS. It shows a list of all stands associated with the current project and is where the user accesses the stands and menu functions. This screen is where the following operations are performed.

Make a new project or stand Access stand information screens Copy, delete or edit a project or stand

Copy, delete or edit a project or stand Copy, delete or edit a project tables

Copy, delete or edit plot data

Import data from DOS SuperACE/Flips Run and print reports Set project defaults Download data from a data recorder



Following is a description of the opening screen's banner and tool buttons.



Tool Buttons



Print Button – Prints the opening screen on the default printer.



About Button – Displays software version and installation code.



Help Button – Opens the on-line help screen.



Inventory Button – Opens the FI-Input screen in FLIPS.



Cruise Data Button – Opens the TC-Edit screen in SuperACE.



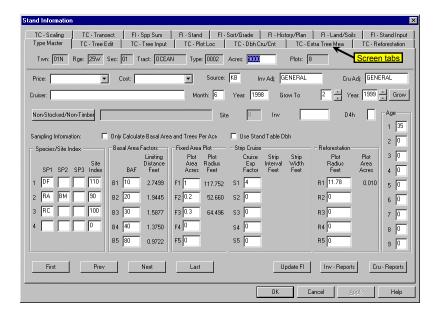
Project Button – Opens the project selection screen.



Harvest Planning Button - Not active at this time.

Stand Information Screen

Each stand in a project is accessed through a stand information screen. It is a collection of dialog screens that contain all the data associated with a given stand. This includes stand information such as location, associated cost and price tables, cruiser name, etc.; tree details; stand history and planning; land and soils information; and GIS information. In this dialog the user can add or edit information via the screen tabs. It is also possible to move through the list of stands in the selected project using the four buttons. First, Previous, Next, and Last.



The above screen shows all the screen tabs that would be available if both SuperACE and FLIPS modules are installed on a PC.

If only the **SuperACE** module is installed, then the user would only see the following screen tabs:

Type Master TC-Tree Edit TC-Tree Input TC-Plot Loc
TC-Dbh Cru/Cnt TC-Extra Tree Mea TC-Reforestation TC-Scaling TC-Transect

The TC in front of the title stands for Timber Cruise.

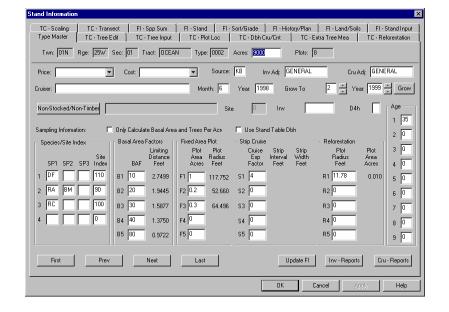
If only the **FLIPS** module is installed, then the user would only see the following screen tabs:

Type Master FI-Spp Sum FI-Stand FI-Sort/Grade FI-History/Plan FI-Stand Input

The FI in front of the title stands for Forest Inventory.

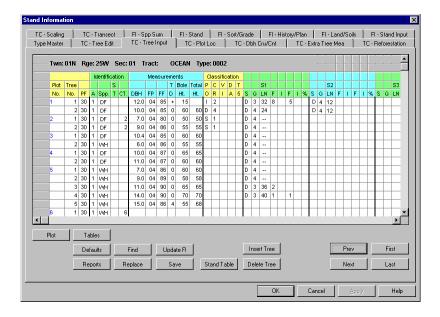
Type Master Screen

This screen is accessed by double clicking on the gray area to the left of the TWN number on the opening screen. This screen contains all the inventory and cruise information associated with a given type (stand) in a distinct township, range, and section location. This includes information such as location, tract name, type number, stand size, cost and price tables, cruiser name, site index, BAF, age, etc. A master is either created by hand entering values, downloading data from a field data recorder, or by copying or exploding a stand. Type master is the first dialog screen that appears when the stand information screen is opened.



TC - Tree Input Screen

The TC – Tree Input Screen is accessed by clicking on the **TC – Tree Input** tab of the stand information screen. It is this screen where timber cruise plot data is entered. The data is entered directly into the screen cells and through the insert tree, delete tree, and replace buttons located at the bottom of the screen.



Data Input Fields

Plot No. - Plot Number. A Four digit plot number, alpha/numeric, is assigned to each plot. Each plot in a timber type must have a unique number. Duplicate plot number will be computed as one plot. The program will check for duplicate plot numbers when you start entering a plot. Plot numbers should be pre-assigned when more than one cruiser is taking plots in a type. Plot Number –000 means the tree on the line is a 100% cruise and the tree volume will be added separately to a plot cruise. A strip cruise value of 1.00 does the same thing.

Tree No. - Tree Number. A three digit numeric field. Tree number is assigned by the computer except when measuring permanent plots. Users input tree numbers when measuring permanent plots for growth and each tree is going to be measured more than once.

PF – Plot Factor or Prism Factor. A two digit alpha numeric field. When a two digit number is entered, the field is a Prism Factor or Basal Area Factor (i.e. 20 equals a 20 BAF). If a decimal value is used for a prism factor then a B1, B2, B3, B4 or B5 is entered with the prism factor value

defined in the type master screen (i.e. B1 is entered in the PF column and 33.61 is entered next to B1 in the type master screen). Glass prisms should always be checked for the proper prism factor. A letter followed by a number (i.e. F1, R1 or S1) is referring to a Plot Factor in the type master screen. These refer to various sampling systems and plot sizes.

Up to 5 options for each sampling system can be used:

System	Option	Example (As entered in Type Master)
Basal Area Factor:	B1 thru B5	B1 = 27.78
Fixed Area Plots:	F1 thru F5	F1 = 0.25 (One quarter acre plot)
Reforestation Plot Radius:	R1 thru R5	R1 = 11.78 (1/100 acre plot)
Strip Cruise Blowup:	S1 thru S5	S1 = 4.00 (25% strip cruise)

Identification

A. - Age (required): A one digit numeric field for age code. The age in years is input on the cruise master screen. Default age is code 1. Up to nine ages can be input per type. Age is used for calculating the tree form, bark factors, growth, and for age class reports. If no age is assigned, then a default age of 30 is used for volume calculations.

Spp. – Species (required): A six digit alpha/numeric field is provided for species. The numbers or letters must match the active species screen. A species table must be active before the cruise data is entered. Species is very important. It is usually not a good idea to group species. Each individual species should be entered on the species table with appropriate factors and limits.

St. – Status (optional): A one digit alpha/numeric field. Input must match codes in the status table. Status is used to indicate dead trees, etc.

Ct. - Count (optional): The tree count. A two digit numeric field is provided for tree count. Count plots are used to adjust the trees per acre for the trees on the cruise plot. Trees can be counted on the plots by species and diameter. Count plots can be used with BAF, fixed area plots, and strip cruises. Blank plots are entered as a count plot with a species code and a 0 in the Ct. column.

Measurements

DBH – Diameter Breast Height: This field is required when cruising volume plots and optional when cruising count and regeneration plots. DBH is a four digit numeric field, including the decimal point, is provided for diameter. This diameter is normally at 4.5 feet above the ground on the uphill side of the tree. This diameter is measured four feet or 1.3 meters above the stump outside the bark. Diameters less than 99.9 inches can be input to the nearest tenth inch. Trees larger than 100 inches are input to the nearest inch.

FP – Form Point (required) – A two digit numeric field is provided for form point. Default is DBH (four feet above the stump). Form point is where Form Factor is measured and/or where the tree taken "in" with a BAF. If form point is defined as four feet, the program will automatically use a form point of 16 feet to calculate Form Factor. Form point can be varied for each tree if needed.

FF – Form Factor (required for measure plots) – A two digit numeric code. Form factor is the percent relationship of the diameter at Form Point (16 feet) divided by the DBH. Default values

for Form Factor by species are input on the species screen. If no form factor is entered, the form factor from the species table will be used.

TD – Top Diameter (required for measure plots). A one digit alpha/numeric field. Top diameter is the diameter outside the bark at the top of the bole. This is entered as a single digit percent value or as an alpha value for diameter. As shown below.

•		Top Diame Alpha Code	
Code = Inches	Centimeters	Code = Inches	Centimeters
A = 1	2.5	N = 14	35.0
B = 2	5.0	O = 15	37.5
C = 3	7.5	P = 16	40.0
D = 4	10.0	Q = 17	42.5
E = 5	12.5	R = 18	45.0
F = 6	15.0	S = 19	47.5
G = 7	17.5	T = 20	50.0
H = 8	20.0	U = 21	52.5
I = 9	22.5	V = 22	55.0
J = 10	25.0	X = 23	57.5
K = 11	27.5	W = 24	60.0
L = 12	30.0	Y = 25	62.5
M = 13	32.5	Z = 26	65.0
	Coint Alpha C Code = Inches A = 1 B = 2 C = 3 D = 4 E = 5 F = 6 G = 7 H = 8 I = 9 J = 10 K = 11 L = 12	Point Alpha Codes Code = Inches Centimeters A = 1 2.5 B = 2 5.0 C = 3 7.5 D = 4 10.0 E = 5 12.5 F = 6 15.0 G = 7 17.5 H = 8 20.0 I = 9 22.5 J = 10 25.0 K = 11 27.5 L = 12 30.0	Coint Alpha Codes Alpha Code Code = Inches Centimeters Code = Inches A = 1 2.5 N = 14 B = 2 5.0 O = 15 C = 3 7.5 P = 16 D = 4 10.0 Q = 17 E = 5 12.5 R = 18 F = 6 15.0 S = 19 G = 7 17.5 T = 20 H = 8 20.0 U = 21 I = 9 22.5 V = 22 J = 10 25.0 X = 23 K = 11 27.5 W = 24 L = 12 30.0 Y = 25

Bole Ht. – Bole Height (required for measure plots) – A three digit numeric field. Bole height is the distance from the stump to the Top Diameter Fraction or the Top Diameter outside the bark to the nearest foot or meter.

Tot Ht. - Total Height (optional) -A three digit numeric field. Total height is the distance from the stump to the tip of the tree. Maximum tree height for a species is input on the species screen. Bole height and tree height can be entered individually or together.

Classification (optional)

Po (T1) - Position

O = over-story - Older age trees, usually residual

D = dominant

C = co-dominant

I = intermediate

S = suppressed

U = under-story - younger trees than the main canopy

CR (T2) – Crown Ratio percent of the tree length with canopy.

1 = 10%

2 = 20%

3 = 30 %

4 = 40%

5 = 50%

6 = 60%

7 = 70%

8 = 80%

9 = 90%

Vi (T3) - Vigor

H = healthy, living tree, may have damage

M = alive, but damaged and/or is not normal.

D = dying

Da (T4) - Damage

A = animal damage, unknown species

B = bear

C =

D = deer

E =

F = fire

G =

H =

I = insects

J = J rooted when planted

Κ:

L=

M =

N = O =

P =

Q =

R=

S=

T5 - other

Segments - Up to 12 Segments can be described for each tree (required for volume calculation).

S# - Segment number – two digit automatically assigned by the program. This includes cull segments, breakouts and logs.

S - Sort - A single alpha or numeric code as described in the active sort/grade table.

G - Grade - A single alpha or numeric code as described in the active sort/grade table.

Ln – Segment length. Two digit numeric. Log length min and max are input on species, sort and grade tables.

Bd. Ft. F. - Board Foot length deductions.

I. - Board Foot diameter deductions

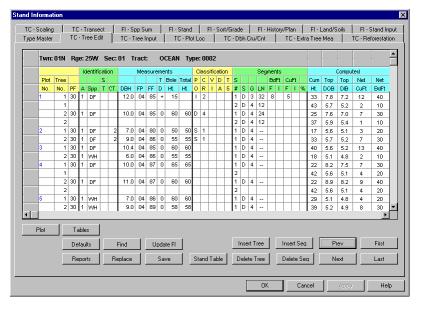
Cu. Ft. F. – Cubic Foot length deductions

I. - Cubic Foot diameter deductions

% - Numeric field left blank when using length or diameter deductions. A 1 is entered when percentage deductions for both board foot and cubic feet are to be used. Percentages are entered as whole numbers (i.e. 10 equals 10% and 05 equals 5%).

TC - Tree Edit Screen

This screen is accessed by clicking the button located on the opening screen tool bar after the desired stand has been selected. Or by clicking the TC – Tree Edit tab of the stand information screen. It shows the data as it was entered in the TC - Tree Input screen along with the computed values and error messages for each log segment. This screen is used to edit the tree data that was entered in the TC - Tree Input screen. The tree data is edited directly into the screen cells and through the insert segment, delete segment, insert tree, delete tree, and replace buttons located at the bottom of the screen. The fields in this screen are the same as those in the TC – Tree Input screen, with the exception of the following fields. These fields are found on the right side of the screen.



Computed (These fields are calculated automatically by the program.)

Cum Ht. - Cumulative Height - Height of segments including trim.

Top DOB - Top Diameter Outside Bark - The small end of the log, outside the bark, as specified in the scaling rule.

Top DIB - Top Diameter Inside Bark - The small end of the log, inside the bark, as specified in the scaling rule.

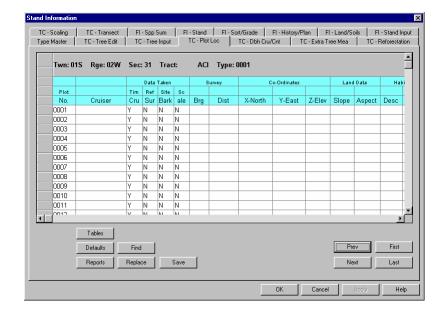
Net CuFT - The cubic feet in a log less defect deductions.

Net BdFt - The board feet in a log less defect deductions.

If a tree segment does not meet any of the parameters defined in the species or sort and grade tables an error message will appear in red to the right of the computed fields. Once the segment is edited the message will disappear.

TC - Plot Loc

The TC – Plot Loc screen is accessed via the **TC – Plot Loc** tab of the stand information screen. This screen allows the user to input, through keyboard or data recorder download, direction of travel, coordinates (state plane, latitude/longitude, or UTM system), slope, aspect, and habitat description for each cruise plot.



Fields

Plot No. – Plot number is filled automatically based on plot numbers entered in the TC – Input Screen or the TC - Edit Screen.

Cruiser – The name of the cruiser who did the cruise. Entered automatically as it was entered in the type master or data recorder.

Data Taken Section

Tim Cru – A 'Y' flag is automatically filled if the plot was used in a timber cruise. **Ref Sur** - A 'Y' flag is automatically filled if the plot was used in a reforestation survey. **Site Bark** - A 'Y' flag is automatically filled if data was entered in the TC – Extra Tree Measurement screen.

Scale - A 'Y' flag is automatically filled if data was entered in the TC – Scaling screen.

Survey Section (optional)

Brg - Direction to next plot in azimuth (45) or bearing (N45E) degrees.

Dist.- Distance in feet to next plot if measure units are set to E. Distance in meters to next plot if measure units are set to M.

Co-ordinates (optional)

X-North – Northing coordinates in units based on coordinate system in use.

Y-East – Easting coordinates in units based on coordinate system in use.

Z-Elev – Elevation in feet or meters.

Land Data (optional)

Slope - Slope at plot center in degrees or percent.

Aspect – Slope aspect at plot center designated by an alpha code that is described in the active Aspect table.

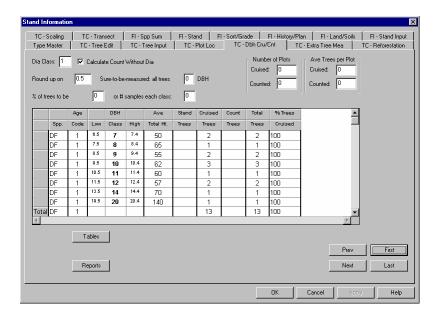
Habitat (optional)

Desc - Four character alpha/numeric field describing habitat.

Ind Spp - Four character alpha/numeric field describing indicator species.

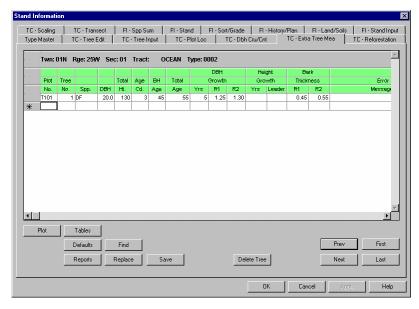
TC - Dbh Cru/Cnt

The TC – Dbh Cru/Cnt screen is accessed via the **TC – Dbh Cru/Cnt** tab of the stand information screen. This screen gives a stand table summation based on the cruise data in the selected stand. It can also be accessed in the TC – Tree Input and TC – Tree Edit screens by clicking on the Stand Table button. The diameter class can be adjusted in the "Dia. Class" cell and the diameter class mid-point is defined in the "Round up on" cell. The changes take affect by clicking on the Save button. The other variable cells are not active at this time.



TC - Extra Tree Measurements

The TC – Extra Tree Measurements screen is accessed by clicking the **TC – Extra Tree Mea** tab of the stand information screen. This screen stores site tree and additional tree measurements. The measurements include species, DBH, total ht., age code, BH age, total age, DBH growth, height growth, and bark thickness.



Fields

Plot No. – The number of the plot that the tree is on or the nearest plot if the tree measurements were taken on a tree between plots.

Tree No. – The tree number assigned to the tree on the plot. This will be blank if tree is an "off plot" tree.

Spp. – The species code for the tree as defined in the species table.

DBH – Diameter at breast height of the tree.

Total Ht. – Total height of the tree.

Age Cd. – The age code to be assigned for the age class that the measure tree represents. This is the same code that is entered in the 'A' column of the TC-Tree Input screen.

BH Age - Breast height age of the tree.

Total Age - Total age of the tree.

DBH Growth Section (the cruiser has the option of taking two measurements)

Yrs – The number of years used to determine the growth increment. For example, enter a 5 for 5 year increment or 10 for 10 year increment.

R1 – The first growth increment measurement which can be taken to the nearest hundredth of an inch.

R2 – The second growth increment measurement which can be taken to the nearest hundredth of an inch.

Height Growth Section

Yrs - The number of years used to determine the leader growth. For example, enter a 5 for 5 year increment or 10 for 10 year increment.

Leader - Length of the leader.

Bark Thickness (the cruiser has the option of taking two measurements)

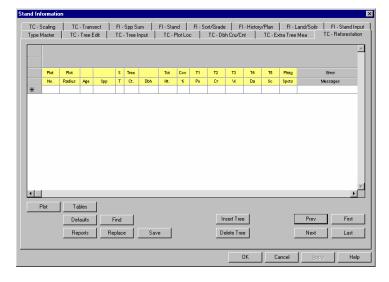
R1 - The first bark thickness measurement which can be taken to the nearest hundredth of an inch.

R2 - The second bark thickness measurement which can be taken to the nearest hundredth of an inch.

Error Messages – A message will alert the cruiser must be filled in order to complete a measurement. For example, the cruiser will be prompted for total tree height if Spp. and total ht. have been entered in order to have data to determine site index.

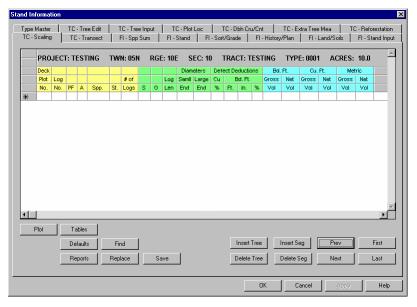
TC - Reforestation

Under construction.



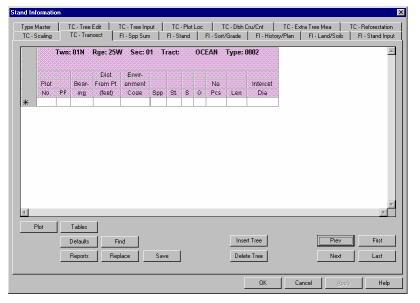
TC - Scaling

Under construction.



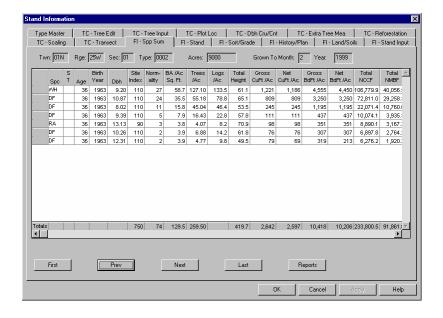
TC - Transect

Under construction.



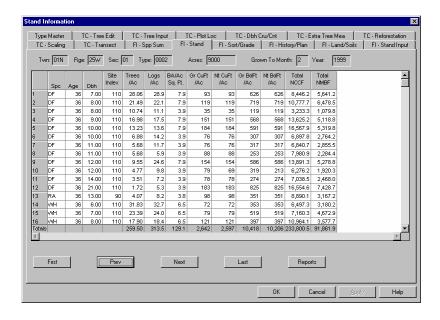
FI - Spp Sum Screen

FI – Spp Summary Screen is accessed by clicking on the **FI – Spp Sum** tab on the stand information screen. The table that appears in this screen lists summarized information about the species in the stand. This information includes the species name, the average age, DBH, Site Index, Basal Area per Acre, Trees per Acre, Logs per Acre, Total Height, Gross and Net Cubic Feet per Acre, and Gross and Net Board Feet per Acre.



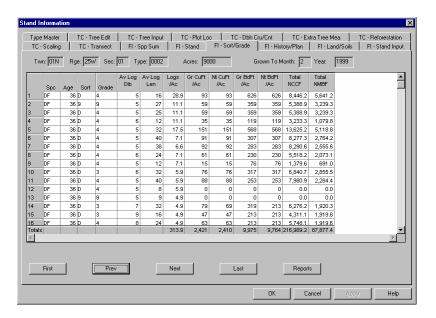
FI - Stand Table

FI - Stand is the third tab of the stand information screen and is a detailed view of the stand information. It is similar to the FI - Spp Sum view of the stand data, except that each species is broken down by DBH . It then includes the remaining information of Site Index, Basal Area per Acre, Trees per Acre, Logs per Acre, Height per Tree, Gross and Net Cubic Feet per Acre, and Gross and Net Board Feet per Acre.



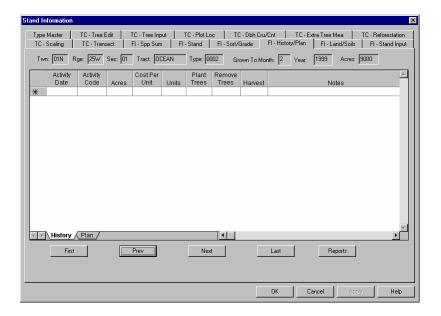
FI - Sort/Grade Screen

The Sort/Grade screen is accessed by clicking on the **FI – Sort/Grade** tab of the stand information screen. It is the most detailed view of the stand information. It is similar to both the Species Summary and Stand Table views of the stand data, except that it is broken down further into the individual sort and grade combinations for each species of a given log DIB. It then includes the remaining information of logs per acre, Gross and Net Cubic Feet per Acre, and Gross and Net Board Feet per Acre. The data must have sort/grade information in order for this table to display calculations.



FI - History/Planning Screen

The History/Planning screen is accessed by selecting the **FI-History/Plan** tab on the stand information screen. It allows you to enter history or planning activities associated with individual timber types in a project. Click on the History tab at the bottom of the History/Planning screen to enter information on stand history. Alternatively click on the Plan tab to enter information on planning for the stand.



Fields (same fields occur in the History and Plan screens)

Activity Date – Date that the activity occurred (history) or is planned to occur (plan).

Activity Code – A two digit code for an activity that is defined by the user in the associated History\Planning Table.

Acres – The number of acres to be affected by the activity.

Cost Per Unit - Cost for the activity on a per unit basis.

Units – Type of units used to determine costs. For example, acre or mbf.

Plant Trees – If activity requires tree planting, how many trees per unit to be planted (plan) or were planted (history).

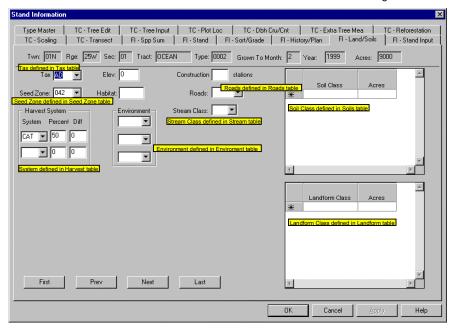
Remove Trees – If activity requires tree removal, how many trees per unit to be removed (plan) or were removed (history)

Harvest – If unit was harvested (history) or is to be harvested (plan), then the harvest date is entered here.

FI - Land/Soils Screen

The Land/Soils screen is accessed by selecting the **FI - Land/Soils** tab of the stand information screen. It allows you to enter landform, soils, road construction, tax, seed zone, habitat, harvest system, stream class, and environmental information that needs to be associated with the stand. Most of the fields in this screen are associated to a user defined table. When the drop down window is opened in one of the fields the codes stored in the associated table are displayed for the user to choose.

The other fields in the screen are not associated to a table and store the following variables.



Elev. – A five digit field for inputting the average elevation of the stand. **Habitat** – A four digit alpha/numeric code describing the general habitat of the stand. **Construction Stations** – The number of stations necessary for road construction. **Harvest System**

Percent – Percent of total stand acres operable by a giving harvest system.

Diff – The percent of difficulty to harvest the stand under a given harvest system.

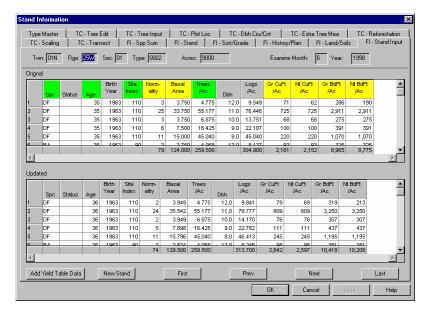
Soil Class: Acres – The number of acres in the stand assigned to a certain soil class.

Landform Class: Acres – The number of acres in the stand assigned to a certain landform class.

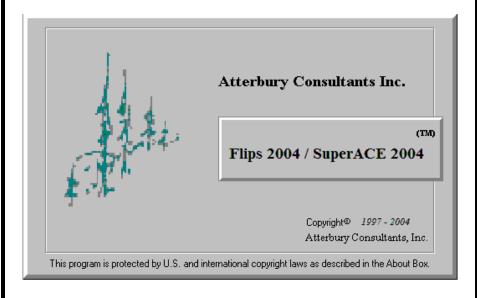
FI - Stand Input Screen

The FI - Stand Input screen is accessed by clicking the screen tool bar after the desired stand has been selected. It can also be accessed by clicking on the **Stand Input** tab of the stand information screen. It is the screen where new stand data is entered. It includes Species, Status, Age, Birth Year, Site Index, Normality, Basal Area per Acre, Trees per Acre, DBH, Logs per Acre, Gross and Net Cubic Feet per Acre, and Gross and Net Board Feet per Acre. The attributes shaded in green (Spc, Age, site index, and Trees/AC) are the minimum stand attributes which must be entered in order to calculate a stand yield. This

screen is automatically filled when FLIPS is updated with cruise data from SuperACE. You can also create a new stand by clicking the new stand button.



Using the FLIPS 2004/SuperACE 2004™ Dialog Screens



Atterbury Consultants, Inc.

3800 Cedar Hills Blvd., #120 Beaverton, Oregon 97005 Phone: (503) 646-5393 Fax: (503) 644-1683 http://www.atterbury.com e-mail: tburke@atterbury.com