



## Section 6 - Data Entry Exercises

The goal of these exercises is to familiarize you with the functionality of Data Entry and Edit. Be sure to test the options for hiding, moving, freezing and reordering fields and also the options for reordering data.

Use these exercises to try entering data in the protocols you will be collecting data with. We have provided practice data sheets some of the FFI protocols. You should enter all the data on the Cover - Species Composition data sheet as it will be used to complete the Species Management exercises. If you want to test data entry in a protocol you haven't already added in the *FFI\_Class* database you can add it Project Management following the steps you used in the Database Setup exercises. You do not need to enter all the data on a data sheet. If you did not complete the Fuel Constant Set exercises enter *Default* in any of the Fuel Constant Set data fields.

You will need the pre-filled datasheets to complete these exercises. The datasheets are in the file named *FFI\_Lite\_Section\_6\_Data\_Sheets.pdf*. You will use the pre-filled datasheets to:

- 1) Enter macro plot data.
- 2) Enter plot data for the sample events in the *Burn Project*.
- 3) Identify an Unknown
- 4) Replace Species in Method Data
- 5) Delete unused species symbol codes
- 6) Fuel Constant Set reports
- 7) Create Macro Plot and Sample Event CSV reports

FFI data specifically about the macro plot - like elevation, aspect, latitude and longitude - are entered on the Macro Plot form in **Project Management**. You will probably only enter data on this form once for each macro plot – right after the plot is established.

FFI data collected with field sampling protocols are entered in **Data Entry and Edit** on the tab specific to the protocol.

## Data Entry Exercises

### Exercise 1: Enter macro plot data.

- 1.1 Log into the *FFI\_Class* database you created in Database Setup exercise, click on the **Project Management** navigation bar.
- 1.2 Using the provided datasheets enter the Macro plot data. Select *Burn Project* and macro plot *BurnPlot001* in **Project Management** and enter data on the Marco Plot data sheet: elevation, aspect, slope, etc. Be sure to scroll down so you see all the fields available for macro plot data. For these exercises you only need to familiarize yourself with the data form and enter data for one macro plot. In an actual monitoring project you will enter data for each macro plot.

The screenshot displays the FFI Lite application window. On the left is a navigation pane with a tree view under 'Project Management' containing 'Burn Project' and its sub-items 'BurnPlot001' through 'BurnPlot004', 'Combo Project', and 'Thin Project'. The main area is titled 'Macro Plot' and contains a form with the following sections:

- Identity:** Includes fields for 'Name' (set to 'BurnPlot001'), 'Type' (set to 'Measured'), 'Purpose', and 'Project Units' (set to 'Burn Project, Combo Project'). There is an 'Assign to Project Units' button.
- Properties:** Contains two expandable sections:
  - Site Characteristics:** Fields for 'Elevation' (1600), 'Elevation Units' (meters), 'Azimuth (deg.)', 'Aspect (deg.)' (040), 'Hill Slope (%)' (20), and 'Transect Slope (%)'.
  - Location:** Fields for 'UTM Easting (m)', 'UTM Northing (m)', 'UTM Zone', 'Datum', and 'Error (m)'.

The taskbar at the bottom shows the user is 'Administrator' and the active window is 'Class\_AU' from the file 'C:\Users\dlutes\Desktop\FFI\_Class.SDF'.

## Data Entry Exercises

### Exercise 2: Enter plot data for sample events in *Burn Project*.

- 2.1 Click on the **Data Entry and Edit** navigation bar. Select the sample event for macro plot *BurnPlot001* and enter data from the field data sheets for the *Surface Fuels*, and *Surface Fuels-Vegetation*, protocols.

FFI Lite

About

Data Entry and...

Data Entry and Edit Details

Picklist Local Species

Surface Fuels - Vegetation Surface Fuels Biomass - Fuels Surface Fuels - Piles

SAVE | CANCEL | FUEL CONSTANTS - | DELETE | DELETE VISIT | IMPORT CSV | EXPORT CSV

Visited: No

Surface Fuels - Vegetation

Num. Transects: UV1 Description:

Collected By: UV2 Description:

Entered/Verif. By: UV3 Description:

Comment:

View	Transect	Samp. Loc.	Item	Cover	Height	VegFuCon	Comment	UV
*								

**NOTE:** The Fuel Consent Sets you entered in Section 5 are available in the Fuel Constant dropdowns on the Surface Fuels and Surface Fuels-Vegetation.

- 2.2 Select the sample event for macro plot *BurnPlot002* and enter data for the *Cover-Species Composition* and *Cover/Frequency* protocols.

FFI Lite

About

Data Entry and E...

Data Entry and Edit Details

Picklist Local Species

Cover - Line Intercept Cover - Species Composition Cover\_Frequency Density - Belts Density - Quadrats Rare Plant Species

SAVE | CANCEL | DELETE | DELETE VISIT | IMPORT CSV | EXPORT CSV

Visited: No

Min. Cov. Level:

Plot Area:

Collected By:

Entered/Verif. By:

UV1 Description:

UV2 Description:

UV3 Description:

Comment:

View	Item Code	Status	Size Class	Age Class	Cover	Height	Comment	U
*								

## Data Entry Exercises

2.3 Select the sample event for macro plot *BurnPlot003* and enter data for the *Trees* protocol.

The screenshot shows the FFI Lite application window. On the left is a Project Management tree with 'Burn Project' expanded, showing subplots 'BurnPlot001' through 'BurnPlot004'. 'BurnPlot003' is selected. The main window is titled 'Data Entry and Edit Details' and has tabs for 'Trees', 'Biomass - Plants', 'Cover - Points', and 'Cover - Points by Transect'. The 'Trees' tab is active, showing buttons for 'SAVE', 'CANCEL', 'DELETE VISIT', 'IMPORT CSV', and 'EXPORT CSV'. Below these are 'Verify All' and 'Visited: No' buttons. The 'Individuals' tab is selected, showing fields for 'Plot Area', 'Entered/Verif. By', 'Break Pnt. Dia.', 'UV1 Description', 'Snag Plot Size', 'UV2 Description', and 'Collected By', 'UV3 Description'. At the bottom is a table with columns: View, Is Verified, Quarter, Subplot Frac., Tag Num., Species, Status, and DBH. The table has one row with a '\*' in the 'View' column.

2.4 Select the sample event for macro plot *BurnPlot004* and enter data for the *Plot Description* protocol.

The screenshot shows the FFI Lite application window. On the left is the same Project Management tree as in the previous screenshot, but 'BurnPlot004' is now selected. The main window is titled 'Data Entry and Edit Details' and has tabs for 'Plot Description', 'Fire Behavior', 'CBI', 'Disturbance History', 'FCCS', 'Plot Sampling', and 'Post Burn Severity (netic)'. The 'Plot Description' tab is active, showing buttons for 'SAVE', 'CANCEL', 'DELETE', and 'DELETE VISIT'. Below these are 'Visited: No' and 'Collected By' fields. The 'Radius/Length' and 'Width' fields are also present. The 'Site Index' and 'Site Index Species' fields are also present. The 'Landform, Geology, Soils' section has fields for 'Landform', 'Geology 1', 'Geology 2', 'Soil Texture', 'Erosion Types', and 'Erosion Sev.'. The 'Vegetation - Shrub and Herbaceous Cover' section has fields for 'Shrub Cover', 'Low Shrub Cover', 'Med Shrub Cover', and 'Tall Shrub Cover'. The 'Ground Cover' section has fields for 'Bare Soil', 'Gravel', 'Rock', 'Duff', 'Wood', 'Moss/Lichen', 'Char', 'Ash', 'Basal Veg.', and 'Water'. The 'Vegetation - Tree Cover' section has fields for 'Tree Cover', 'Med Cover', 'Seed Cover', 'Lug Tree Cover', 'Sap Cover', and 'Vug Tree Cover'. The 'Vegetation - Composition' section has fields for 'Upp Spp 1', 'Upp Spp 2', 'Mid Spp 1', 'Mid Spp 2', 'Low Spp 1', 'Low Spp 2', 'P/V Code', and 'Pot. Lifform'. The 'Fire Behavior and Fuels' section has fields for 'FBFM Number', 'FBFM Code', 'Photo Series', 'Stand Ht', 'Canopy Base Ht', 'Flame Len.', 'Spread Rate', 'Fire Behav. Pnc', 'FSC Substrate', and 'FSC Vegetation'.

## Data Entry Exercises

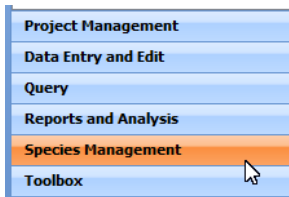
### Post data entry Species Management tasks

It is good practice to keep your local species list up to date by identifying unknowns, replacing species symbol codes when they are updated and deleting unused species codes. The next three exercises will describe how to do these tasks.

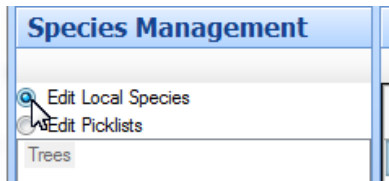
#### Exercise 3: Identifying an Unknown

When you know the identity of an unknown species, you can easily update the species symbol to one. The update will change all instances of the unknown species symbol code in the Administrative Unit to the new symbol code.

**3.1** Click the **Species Management** navigation bar at the lower left of the screen.

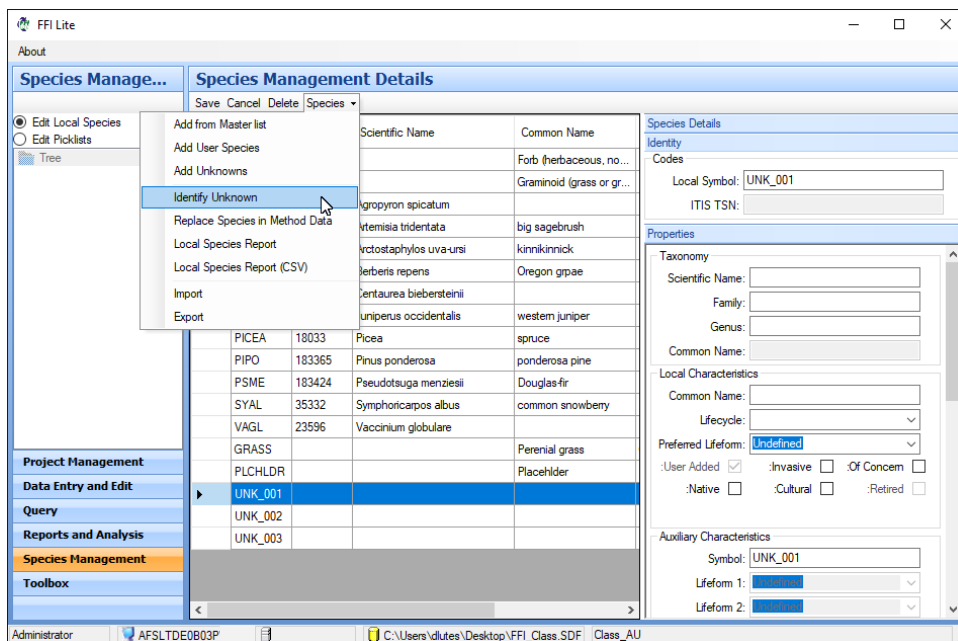


**3.2** Click the radio button for Local List in the upper left, if not already selected,



**3.3** In the **Species Management Details** window, highlight **UNK\_001**.

**3.4** Select **Identify Unknown** in the **Species** menu.



## Data Entry Exercises

- 3.5** The **Identify Unknown** window will open. Enter *ferua* as the **Symbol**. Click **Apply Filter**. (Be careful not to hit **Apply** until the next step.)

FFI Lite | Identify Unknown

Filters | (use % as a wildcard)

Scientific Name:

Common Name:

Symbol:

TSN:

Filter Applied

Available Master Species

Symbol	SymbolKey	Synonym SymbolKey	Scientific Name	Common Name	Genus
FERUA	FERUA		Festuca rubra ssp. aucta	red fescue	Festuca

- 3.6** With **FERUA** highlighted, click **Apply**. Click **Save**.

FFI Lite | Identify Unknown

Filters | (use % as a wildcard)

Scientific Name:

Common Name:

Symbol:

TSN:

Filter Applied

Available Master Species

Symbol	SymbolKey	Synonym SymbolKey	Scientific Name	Common Name	Genus
FERUA	FERUA		Festuca rubra ssp. aucta	red fescue	Festuca

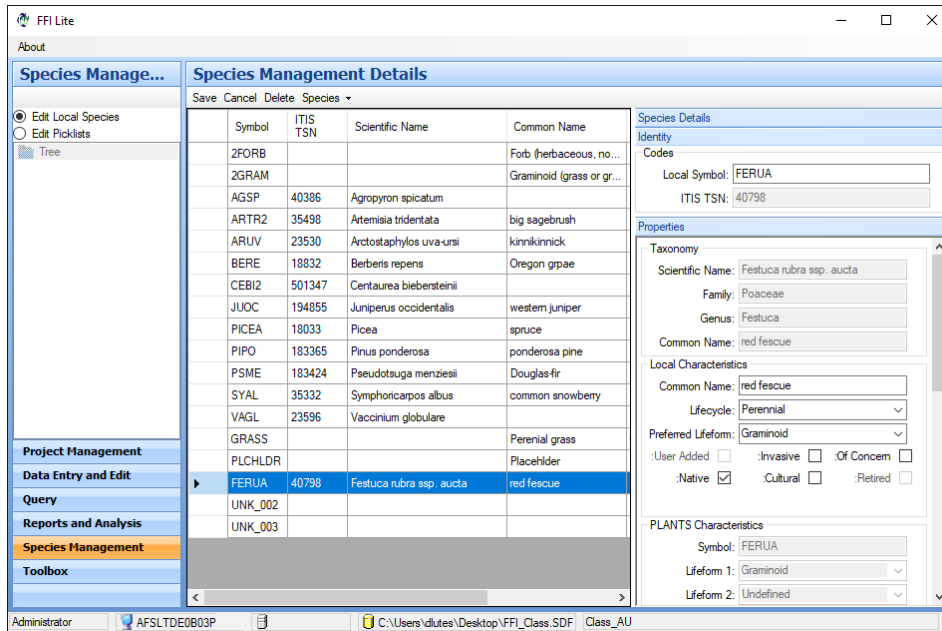
Species Management Details

Save Cancel Delete Species ▾

Symbol	ITIS TCM	Scientific Name
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## Data Entry Exercises

- 3.7** The symbol *UNK\_001* is replaced by *FERUA* in local the species list and the Species Details in the right-hand pane are updated to reflect the correct species. The species symbol change will also be made in each of the protocols where the *UNK\_001* was used.



**NOTE:** If you are unable to find the species you are looking for in the **Identify Unknown** window, either it is not in the **PLANTS** database, or it is already in your species list. If it is in your species list but has never been used, you can delete it before identifying the unknown. If it is in your local list and has been used, you will need to **Replace a Species in Method Data** as described in the next exercise.

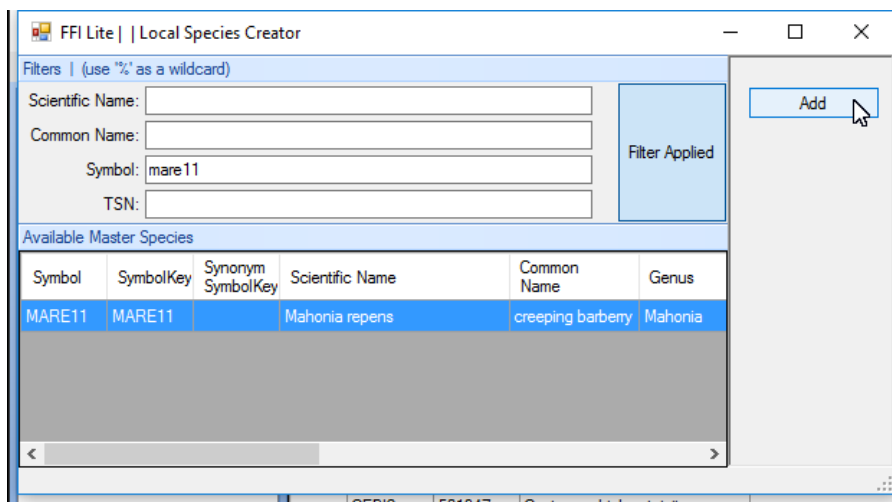
## Data Entry Exercises

### Exercise 4: Replace a Species in Method Data

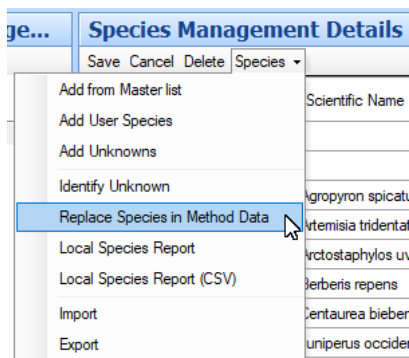
If you collect data for a species in the field but later determine that the species was incorrectly identified or if taxonomists change the scientific name of a species, you can replace the species symbol code in your protocols. If selections are not made carefully it is possible to make wide ranging species code changes that can be “undone” only by restoring a back-up of the database. If you are dealing with an unknown try to use the **Identify an Unknown** tool instead. Make sure your database is backed up before you begin replacing species symbols.

The scientific name for Oregon grape was changed from *Berberis repens* to *Mahonia repens* a few years ago and, with it, came a change in the “preferred” species symbol code used in the PLANTS database from *BERE* to *MARE11*. In this example you will change the symbol for Oregon grape from *BERE* (the old code) to *MARE11* (the new code) in the *FFI\_Class* database.

- 4.1** First, you must add the “new” species symbol code in the local species list. In FFI **Species Management**, add *MARE11* from the master list, as described in the Species Management exercises. Click **Save**. Close the Local Species Creator window.



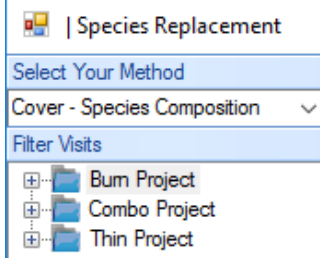
- 4.2** Select **Replace Species in Method Data** from the **Species** menu.



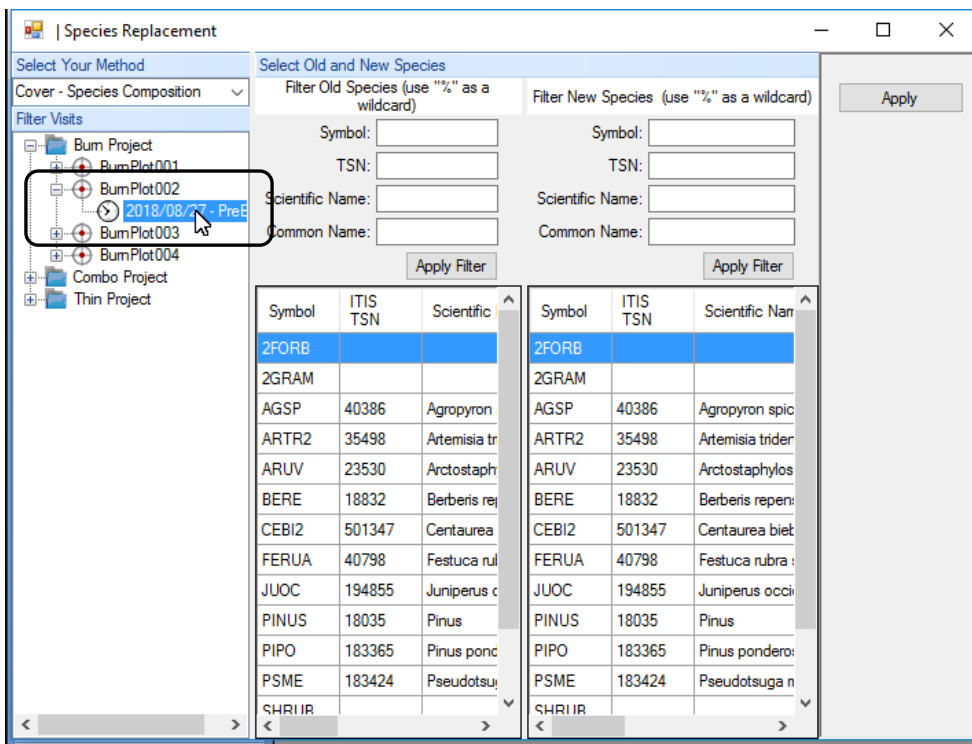


## Data Entry Exercises

- 4.3** The **Species Replacement** window will open. In the **Select Your Method** dropdown list on the left, select the **Cover – Species Composition** method.



- 4.4** In the **Filter Visits** tree view, expand the *Burn Project*, macro *BurnPlot002*, and highlight the sample event. These steps will narrow the replacement to just the selected sample event.

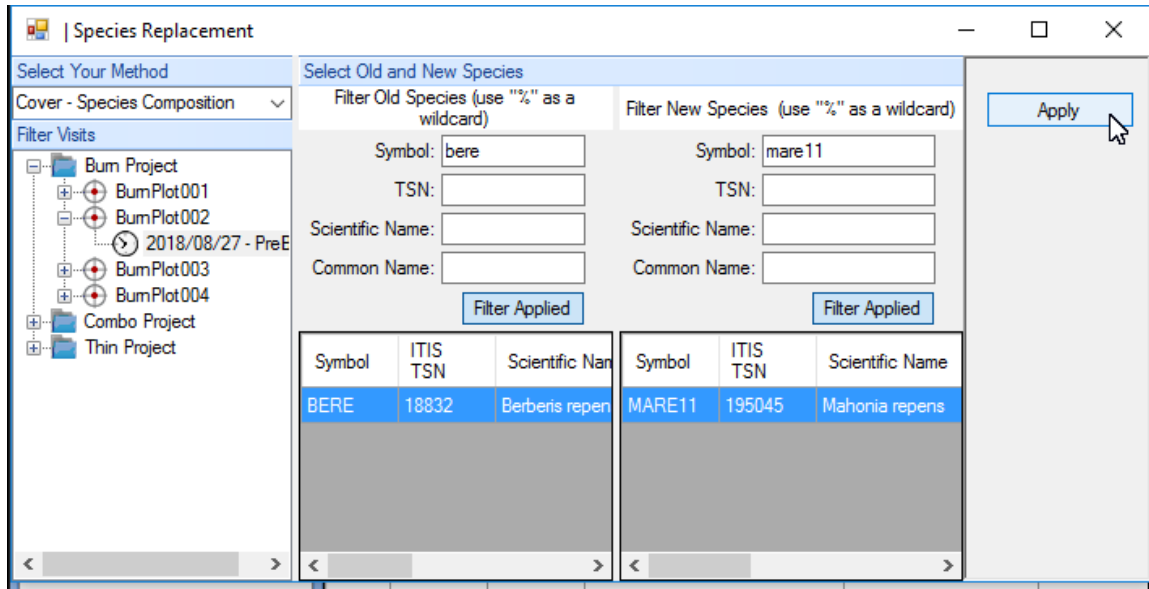


*NOTE: If you select the project unit, all sample events within that unit will be changed. If you select the macro plot, all sample events in that plot will be updated. To update several, but not all, sample events within a macro plot, you will need to update each sample event individually.*

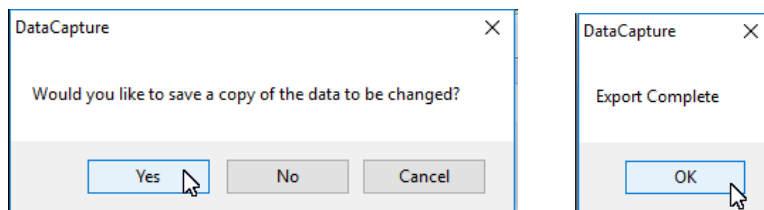
*CAUTION: Be very careful at this step. If you select the entire project unit when you only want a certain macro plot or sample event, you will change data you didn't mean to change, and you might not notice until much later.*

## Data Entry Exercises

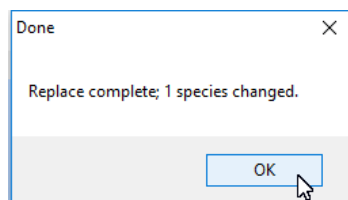
- 4.5 By scrolling or filtering, select the species to be replaced, *BERE*, on the left, and the correct species, *MARE11*, on the right. Click **Apply**.



- 4.6 You will be asked if you would like to save an export file of the sample events before the species replacement is attempted. This is your last chance to create a backup of your database before making the permanent species replacement. Click **Yes**, select a location (e.g., the desktop) and click **OK**. When the export is complete, click **OK**.



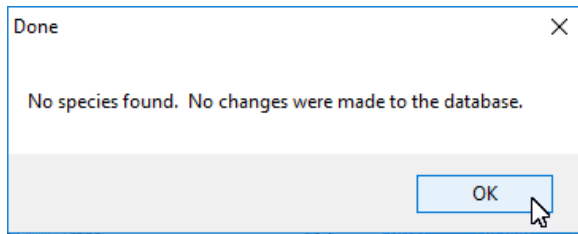
- 4.7 If the tool finds matching data and was able to make the global replacement a dialog will report the number of instances that were changed. Click **OK** and close the **Species Replacement** window.



## Data Entry Exercises

*NOTE: Review your data in the **Query** tool or **Data Entry and Edit** to confirm the results. If the replacement results are not as anticipated you can go to **Project Management** and import the file created in step 4.7 to Replace the species changes with the original data. You should check your data after every species replacement.*

- 4.8** If FFI fails to find any data for the criteria you specified, you will see this dialog instead:



*NOTE: This means that no species replacement was made. If you see this message but you are sure there are species codes to be replaced in your database, double-check the selections on the **Species Replacement** window. Or double check the sample event(s) in **Data Entry and Edit** or in the **Query** tool to determine what your criteria should be.*

- 4.9** Click the **X** in the upper right to close the **Species Replacement** window.
- 4.10** Check to make sure the data replacement worked as expected. Click on the **Data Entry and Edit** navigation bar, open the sample event you created for *BurnPlot002*, open the *Cover-Species Composition* protocol. The *BERE* symbol code will be replaced with the *MARE11* code.

View	Item Code	Cover	Height	Status
	FERUA	10	0.5	L
▶	MARE11	10	2.3	L
*				

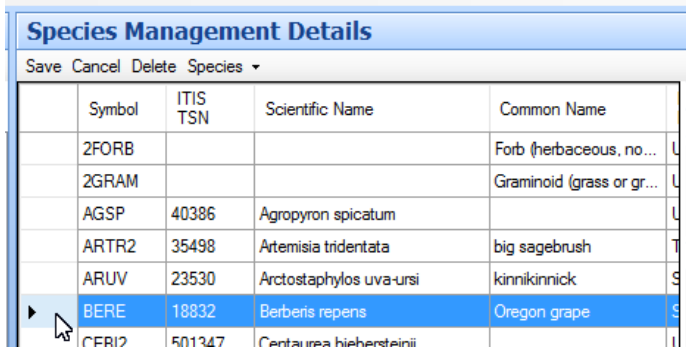
## Data Entry Exercises

### Exercise 5: Deleting unused species symbols

Removing unused species symbols will prevent them from being used inadvertently in data entry.

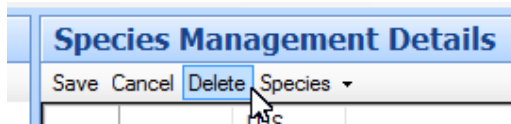
In the previous exercise you replaced the *BERE* species code in the *Cover –Species Composition* protocol with *MARE11*. Now that *BERE* is not used in any protocols in the *FFI\_Class* database you can delete it from the local species list.

- 5.1 Click **Species Management** navigation bar to view the local species list. In the center pane, highlight the record for *BERE* by clicking the area at the left edge of the row.

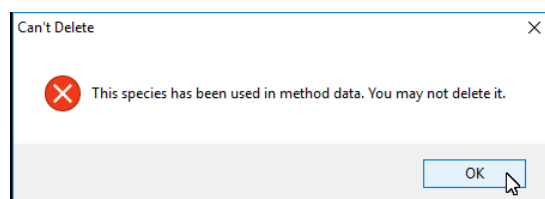
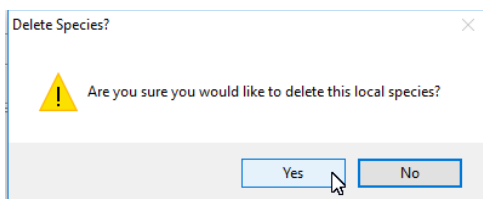


	Symbol	ITIS TSN	Scientific Name	Common Name
	2FORB			Forb (herbaceous, no...
	2GRAM			Graminoid (grass or gr...
	AGSP	40386	Agropyron spicatum	
	ARTR2	35498	Artemisia tridentata	big sagebrush
	ARUV	23530	Arctostaphylos uva-ursi	kinnikinnick
	BERE	18832	Berberis repens	Oregon grape
	CERI2	501347	Centauria hiebersteinii	

- 5.2 Click **Delete** at the top of the center pane.



- 5.3 If the species symbol is not used in any protocols you will be asked if you want to delete the symbol from the local list, otherwise FFI will tell you the species has been used in a protocol and cannot be deleted.



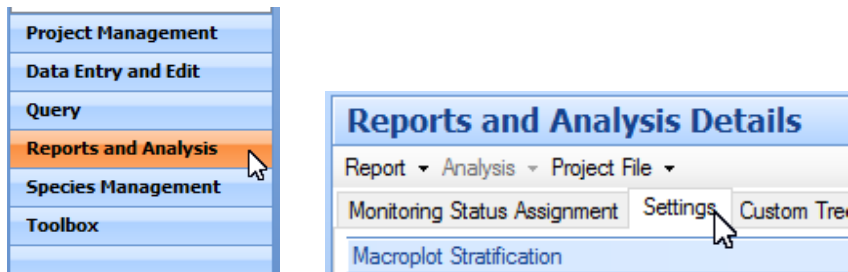
- 5.4 When a species symbol is deleted it will be removed from the local list. If you decide later to add it back in later you may do so.

## Data Entry Exercises

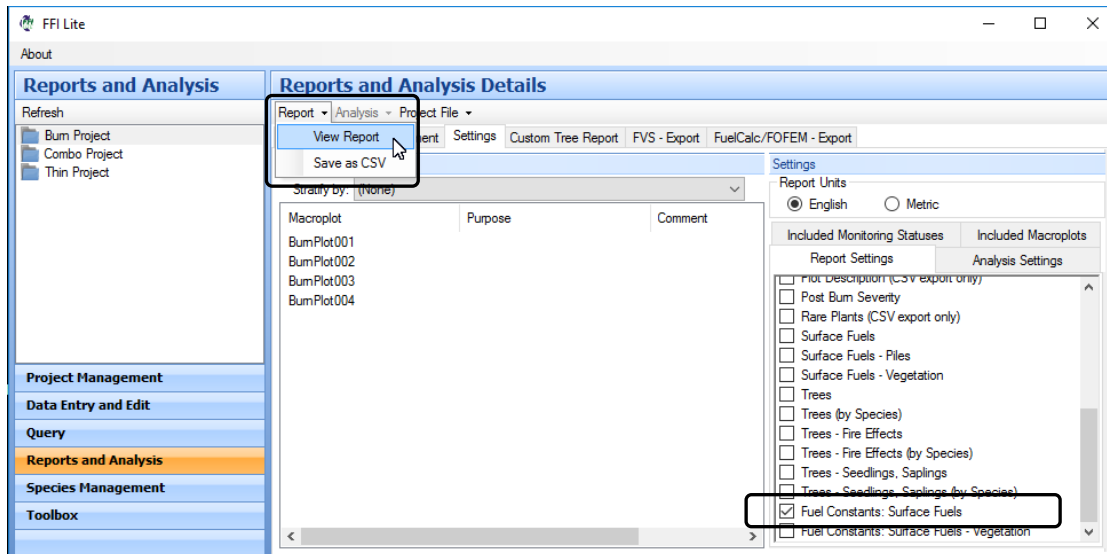
### Exercise 6: Create Fuel Constant Set reports.

- 6.1** After you have entered information in the Surface Fuels protocols in **Data Entry and Edit** you can create a report of the fuel constants used to calculate biomass in **Reports and Analysis**.

Click the **Reports and Analysis** navigation bar and then click the **Settings** tab at the top of the center pane.



- 6.2** On the **Report Settings** tab, check the box for the *Fuel Constants: Surface Fuels* in the right pane. Select **Report > View Report** in the center pane.



## Data Entry Exercises

- 6.3** A separate report will be created for each method that uses fuel constants. View the *Surface Fuels – Course Woody Debris* report to see the fuel constants used for that method. The report shows that on transect 1 of plot *BurnPlot001* the *Douglas-fir* fuel constant set has been selected. Coarse woody debris biomass on the other two transects was calculated using the *Ponderosa pine* and *Hardwood* fuel constants, respectively.

### Fuel Constants: Surface Fuels - Coarse Woody Debris

Macroplot	Monitoring Status	Transect	Log	Decay Class	Fuel Constant Set Name	Specific Gravity				
						SGTh1	SGTh2	SGTh3	SGTh4	SGTh5
BurnPlot001	PreBurn	1	1	4	Douglas-fir	0.45	0.341	0.277	0.137	0.148
BurnPlot001	PreBurn	1	2	3	Ponderosa pine	0.387	0.349	0.34	0.222	0.22
BurnPlot001	PreBurn	2	1	3	Hardwood	0.426	0.345	0.328	0.157	0.158

- 6.4** When the default fuel constants are used for all data collected with the *Surface Fuels*, *Surface Fuels – Vegetation* or *Surface Fuels – Alaska Duff and Litter* protocols the fuel constants will be displayed at the bottom of the report. If any record in one of those protocols uses a custom Fuel Constant Set then you will see this note like this one at the bottom of the report:

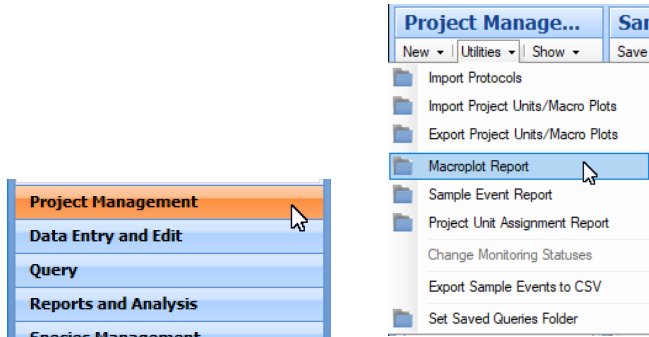
**Custom Fuel Constants:** View the "Fuel Constants: Surface Fuels" report for a list of all fuel constants used to generate this report.

### Exercise 7: Create Macro Plot and Sample Event CSV reports.

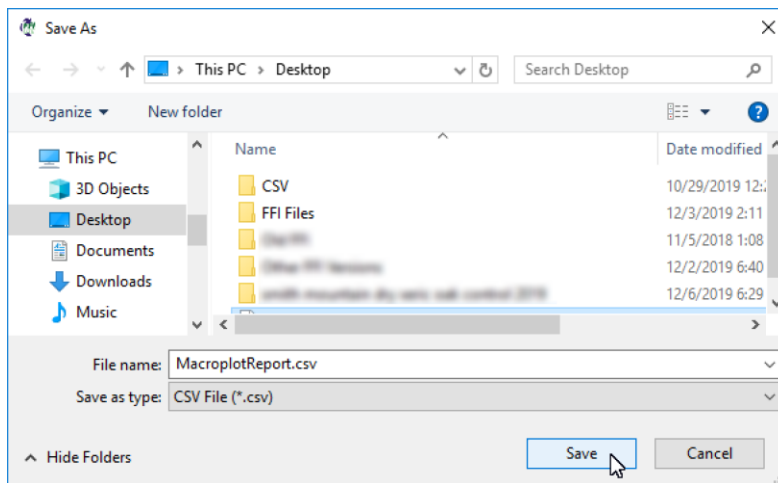
Two CSV reports are available in **Project Management** to help you examine your data. The exercises are added here because the reports are typically created after data for plots and sample events have been entered in a database. The *FFI\_Class* database you are working in now does not include much data so the reports you create in the following exercises might not seem all that enlightening but, when used with large databases, the reports are quite useful. The exercises show just one example for each report but these reports provide information that can be used many ways.

## Data Entry Exercises

- 7.1** There are times when it is helpful to be able to view a report that includes all the data entered on the **Macro Plot** screen in **Project Management** for all macro plots in the currently selected Administrative Unit. Among other things, this report is often used to see what monitoring statuses are assigned to sample events, location information (UTM or lat-long) or what values are assigned to the stratification user variables. To create a Macro Plot report, click the **Project Management** navigation bar and the select **Utilities>Macroplot Report**.



- 7.2** The file will be saved as *MacroplotReport.csv* by default. You can change the file name if needed. For this exercise save the CSV file to your Desktop. Click **Save**.

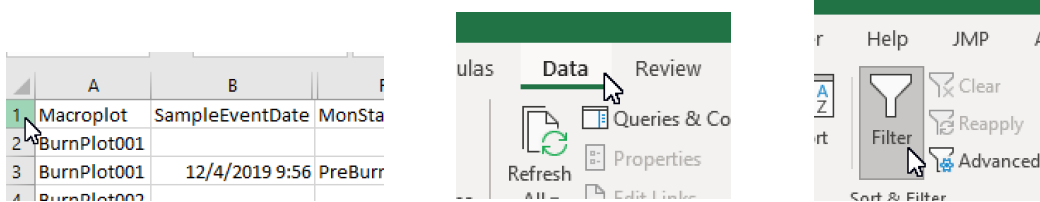


- 7.3** Click the *MacroplotReport.csv* icon on your desktop to open it (typically it will open in Excel). The sheet will have a row for the information entered on the Macro Plot page in **Project Management** followed by rows showing each sample event and associated monitoring status information. Some fields have been hidden in the screenshot below.

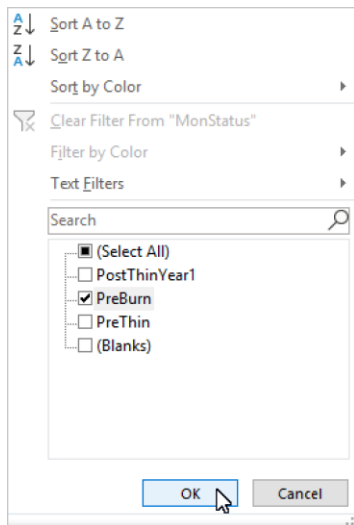
1	Macroplot	SampleEventDate	MonStatus	Latitude	Longitude	Elevation	Elevation	Azimuth	Aspect	SlopeHill	SlopeTranSt
2	BurnPlot001			46.92384	-114.098	1600	meters		40	20	
3	BurnPlot001	12/4/2019 9:56	PreBurn								
4	BurnPlot002										
5	BurnPlot002	12/4/2019 9:56	PreBurn								
6	BurnPlot003										
7	BurnPlot003	12/4/2019 9:56	PreBurn								
8	BurnPlot004										

## Data Entry Exercises

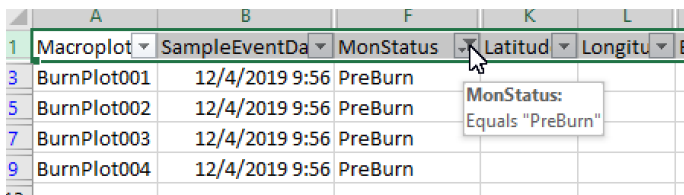
- 7.4** Take advantage of Excel's features, especially the Filter feature, to view the data you need to see. Click the gray area for row "1" in Excel to highlight the entire row. Then select **Data** in the Excel menu bar and click **Filter**.



- 7.5** The Filter feature adds a dropdown option for each column. Use the checkbox to hide or view the information you want to see. For this example, click the dropdown for *MonStatus* (Monitoring Status), click the check in the (*Select All*) box to uncheck all boxes and then click the box for *PreBurn* to check the box. Click **OK**.



- 7.6** All the sample events assigned a monitoring status named *PreBurn* are displayed in the grid. To filter different fields, undo the current selection by clicking the box at the right on the *MonStatus* field in the first row and checking the box for (*Select All*). When working with real data, if you want to save the view you have created you will need to save the file as an Excel spreadsheet (XLSX file). For this exercise there is no need to save the file you've just created. Click the X at the upper right of Excel to close Excel.

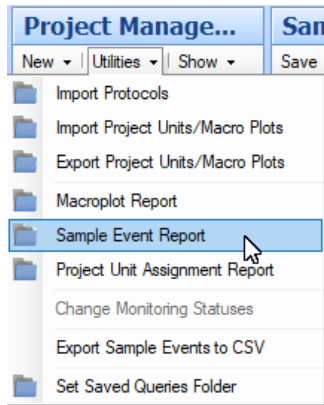


- 7.7** The Sample Event Report provides a list of protocols assigned to each sample event in the currently selected Administrative Unit. This report is often used to review whether

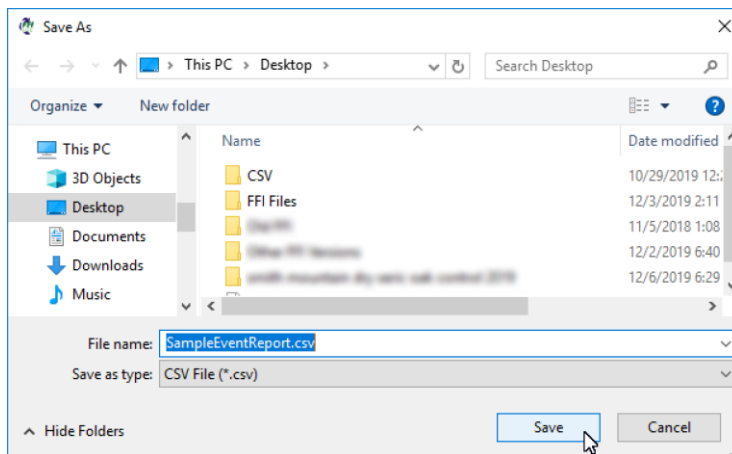


## Data Entry Exercises

data has been entered in protocols (i.e., check if *Visited* = Y for protocols). To create a Macro Plot report, click the **Project Management** navigation bar and the select **Utilities>Sample Event Report**.



- 7.8** The file will be saved as *SampleEventReport.csv* by default. You can change the file name if needed. For this exercise save the CSV file to your Desktop. Click **Save**.

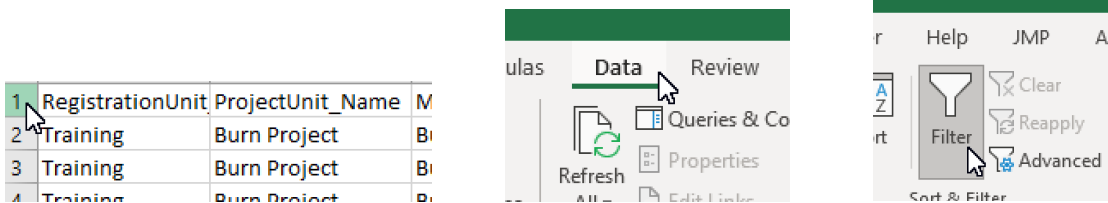


- 7.9** Click the *SampleEventReport.csv* icon on your desktop to open it. The sheet will have a row for each protocol assigned to each sample event.

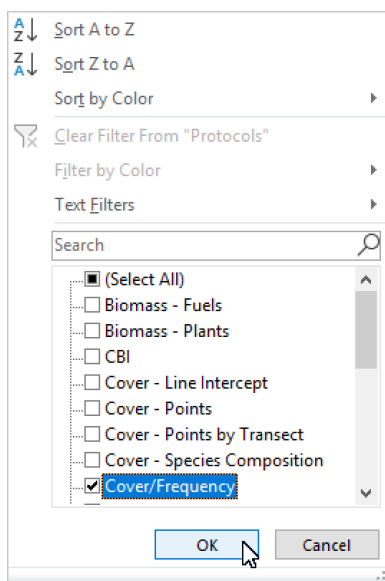
	RegistrationUnit	ProjectUnit_Name	MacroPlot_Name	Multi_PU	SampleEvent_Date	MonitoringState	Protocols	Visited
1	Training	Burn Project	BurnPlot001	Y	12/4/2019 9:56	PreBurn	Surface Fuels	Y
2	Training	Burn Project	BurnPlot001	Y	12/4/2019 9:56	PreBurn	Surface Fuels - Piles	Y
3	Training	Burn Project	BurnPlot001	Y	12/4/2019 9:56	PreBurn	Surface Fuels - Vegetation	Y
4	Training	Burn Project	BurnPlot001	Y	12/4/2019 9:56	PreBurn	Biomass - Fuels	Y
5	Training	Burn Project	BurnPlot002	Y	12/4/2019 9:56	PreBurn	Rare Plant Species	Y
6	Training	Burn Project	BurnPlot002	Y	12/4/2019 9:56	PreBurn	Surface Fuels - Piles	Y

## Data Entry Exercises

- 7.10** Use the Excel Filter feature to see if the data has been entered for all instances of the *Cover/Frequency* protocol in the Administrative Unit: click the gray area for row “1” to highlight the entire row, select **Data** in the Excel menu bar and click **Filter**.



- 7.11** Click the dropdown for *Protocols*, click the check in the (*Select All*) box to uncheck all boxes and then click the box for *Cover/Frequency* to check it. Click **OK**.



- 7.12** Two sample events with the *Cover/Frequency* protocol are displayed on the sheet – one row for each project unit the macro plot was assigned. *Visited* = Y for both sample events so at least some data has been entered in the protocol for all sample events. Remember, when protocols are copied from a previous visit all the header data like *Plot Area* and *Number of Transects* (the sample attributes) get copied to the new sample event, which will set *Visited* to Y even though no data records (method attributes) have been entered.

	RegistrationU	ProjectUnit_Nam	MacroPlot_Nan	Multi_f	SampleEvent_Da	MonitoringSt	Protocols	Visited
9	Training	Burn Project	BurnPlot002	Y	12/4/2019 9:56	PreBurn	Cover/Frequency	Y
30	Training	Combo project	BurnPlot002	Y	12/4/2019 9:56	PreBurn	Cover/Frequency	Y

- 7.13** Experiment with filtering the Sample Event Report if you'd like. When done, click the X at the upper right of Excel to close Excel.