



Section 10 – Creating a Comma-delimited Template File

Before starting these exercises you need have a copy of the FFI training data:

FFI_Training_Data_10514.SDF. The training dataset is included in the zip file if you download the training materials or it can be downloaded individually from *Software and Instructions and Training Data* tab on the *Manuals and Software* page on the FFI FRAMES website: www.frames.gov/ffi.

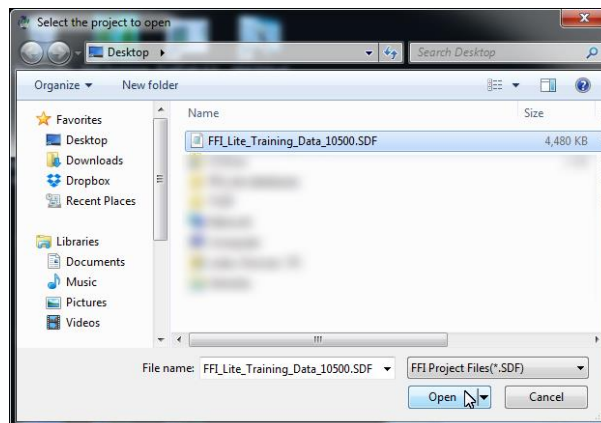
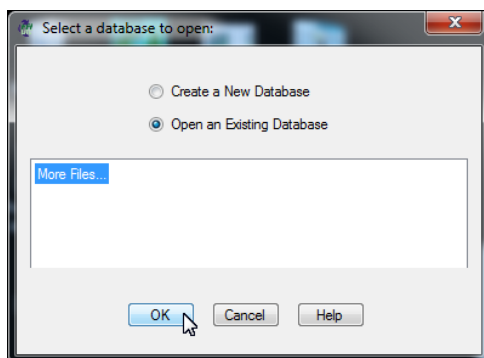
Some protocols have many predefined sample locations and manually entering all those records takes time. For example, *Surface Fuels – Vegetation* has four predetermined vegetation classes to sample: live herb, dead herb, live shrub and dead shrub. The same four classes are assessed at each sample point along a transect. In these exercises you will create a comma delimited (CSV) file template with 32 predetermined fields: four veg assessments at four points on two transects. Other protocols/methods where a CSV template might be helpful are *Duff & Litter* and *Photoloads*.

In these exercises you will:

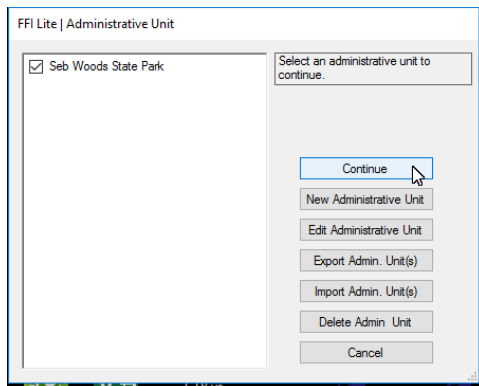
- Create a new, empty sample event for a macro plot
- Export a CSV file from the empty protocol
- Format a template to import predetermined data values into a protocol in FFI-Lite
- Import the template data.

Exercise 1: Open a database and Administrative Unit.

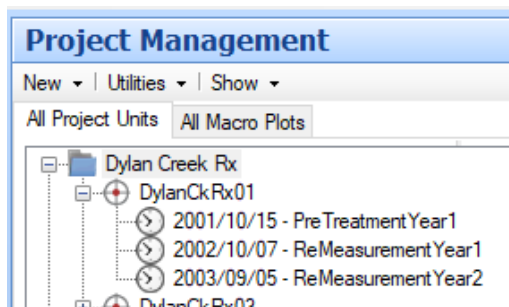
1.1 Double click the **FFI-Lite** icon and log into the *FFI_Lite_Training_Data_10514*. If the training database isn't displayed click **More Files...**, click **OK** and navigate to the folder where you saved database. Click **Open**.



1.2 Check the box for the *Seb Woods State Park* administrative unit and click **Continue**.

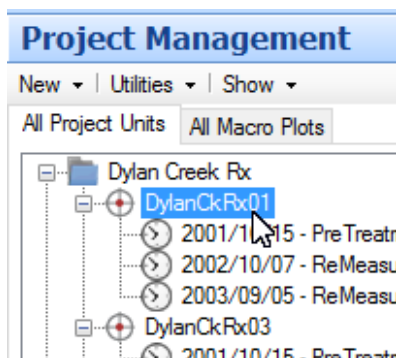


1.3 In **Project Management**, expand the tree view in the left pane so you can see the sample events for *DylanCkRx01*.

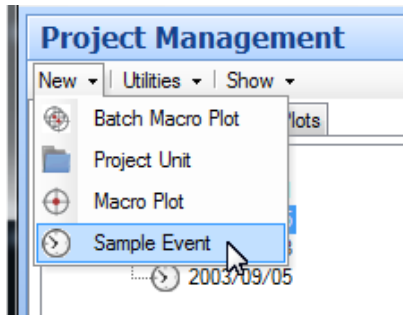


Exercise 2: Add a new sample event and Copy Protocol/Tree Data From Previous Visit

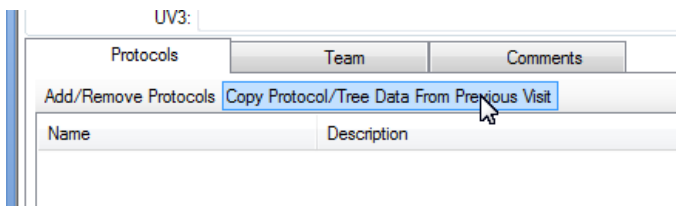
2.1 Highlight the *DylanCkRx01* macro plot name by clicking on it once.



2.2 Select **New > Sample Event**.

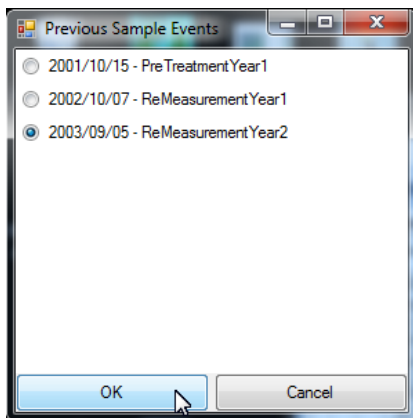


2.3 Click the **Copy Protocol/Tree Data From Previous Visit** button.

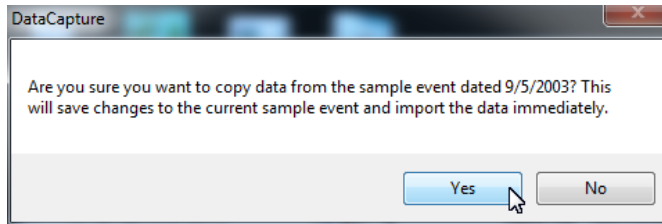


***NOTE:** All the protocols will be copied - you do not have the option to copy only some of the protocols. If there are protocols you do not want assigned to the sample event, they can be removed by first clicking **Delete Visit** on the protocol tab in **Data Entry and Edit** and then using the **Add/Remove Protocols** option in **Project Management**.*

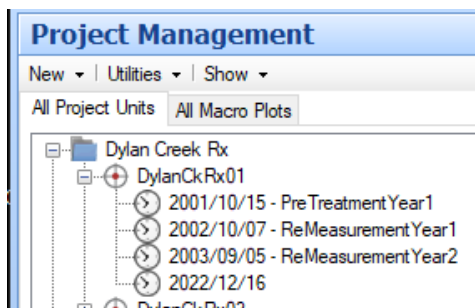
2.4 Select the sample event you want to copy protocols and data from. In this example you can use the sample event from 2003. Click **OK**.



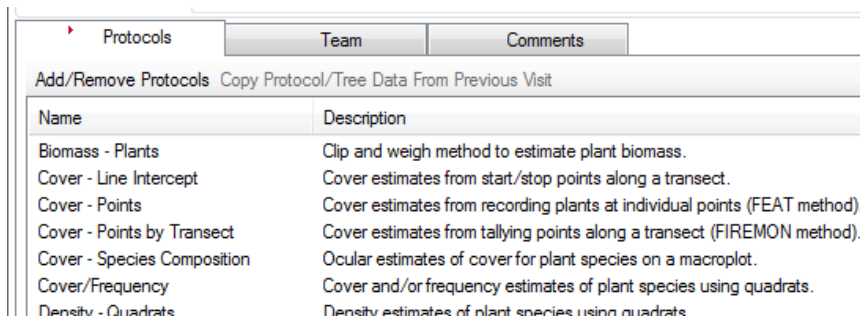
2.5 Click **Yes** to confirm the copied data.



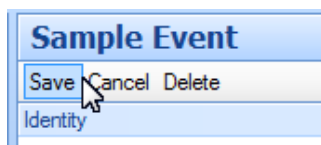
2.6 After about 20 seconds the view will be updated with the new sample event. The sample event will be given today's date. This should be changed in **Project Management** to the date the data are collected.



2.7 The assigned protocols will be shown on the *Protocols* tab.

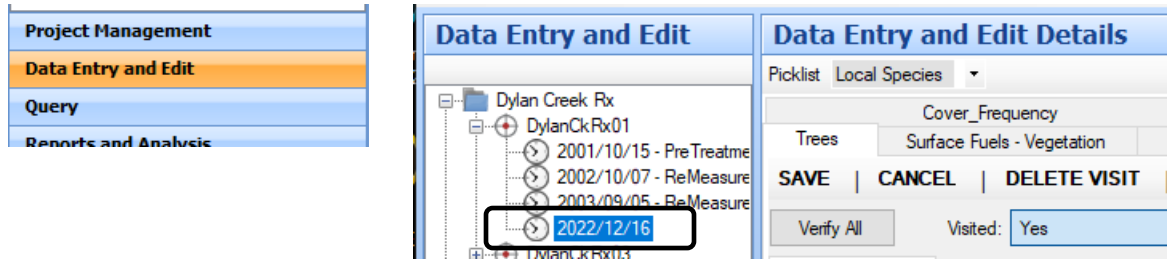


2.8 Click **Save**.

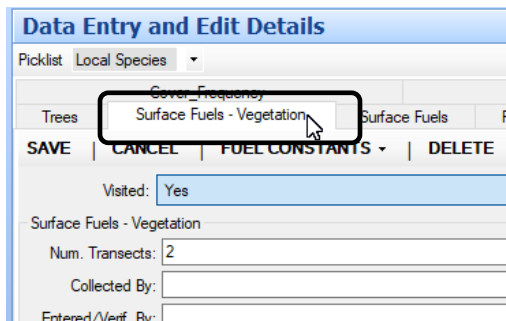


Exercise 3: Exporting an empty CSV for one protocol

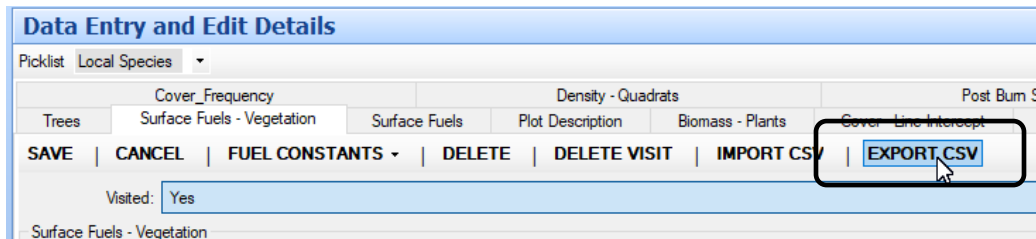
3.1 Click on **Data Entry and Edit**, expand the tree view and click on the new sample event.



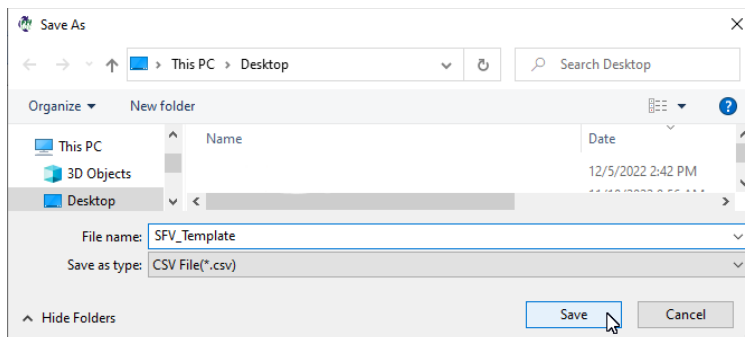
3.2 Click on the *Surface Fuels – Vegetation* tab



3.3 Create a CSV file that will serve as the basis for the template by clicking **EXPORT CSV**.

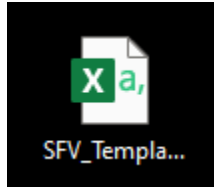


3.4 There are no restrictions on what to name CSV files but the names should intuitively describe the data. You can save the CSV files in any folder. Name the file *SFV_Template.csv* and save the file on your desktop.



Exercise 4: Creating the CSV template file

4.1 Locate the CSV file on your desktop and double-click to open it. It will probably open in Excel.



4.2 The file has column headers that duplicate the headers in the *Surface Fuels – Vegetation* protocol. These are the fields FFI looks for when importing data so don't change the names.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCor	Comment	UV1	UV2	UV3	Index
2													
3													

NOTE: The best way to create a CSV template is using EXPORT CSV because it will have all the fields in the protocol or method and they will all be spelled the way FFI will recognize them. You can add new fields as long as they don't duplicate an existing field name (the added fields will be ignored on import). You can also reorder fields and remove fields you don't use.

4.3 The *Index* field is a required field that is hidden on the data entry screen in FFI and is used to order the data on the entry screen. *Index* values should be sequential integers for each record in the CSV file. Starting at row 2, enter values set from 1 to 32 in the *Index* column in the CSV file.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCor	Comment	UV1	UV2	UV3	Index
2	1												
3	2												
4	3												
5	4												
6	5												
7	6												
8	7												
9	8												

4.4 Assume there are two transects being sampled. In the *Transect* column add the number 1 in rows 2 to 16 and the number 2 in rows 17 to 33.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCor	Comment	UV1	UV2	UV3	Index
2	1	1											
3	2	1											
4	3	1											
5	4	1											
6	5	1											
7	6	1											
8	7	1											
9	8	1											

4.5 Assume vegetation is sampled at four locations along the transect: 10 feet, 20 feet, 30 feet and 40 feet. In the *SampLoc* column, enter 10 in rows 2 to 5. These four rows will be used to enter data collected at the 10-foot mark for four vegetation classes: live herb, dead herb, live shrub and dead shrub. Enter 20 in the next four rows under *SampLoc*, enter 30 in four rows and enter 40 in last four rows for *Transect* 1. Repeat the steps for *Transect* 2.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCor	Comment	UV1	UV2	UV3	Index
2	1	1	10										
3	2	1	10										
4	3	1	10										
5	4	1	10										
6	5	1	20										
7	6	1	20										
8	7	1	20										
9	8	1	20										

4.6 The *Offset* field is a required field that records if you had to offset the sample point for some reason when collecting data in the field. Because it is required it must be filled out in the CSV file. *Offset* is a “Yes/No” field in the FFI database and must be set to *TRUE* or *FALSE*. Set *Offset* to *FALSE* for all 32 sample points.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCor	Comment	UV1	UV2	UV3	Index
2	1	1	10	FALSE									
3	2	1	10	FALSE									
4	3	1	10	FALSE									
5	4	1	10	FALSE									
6	5	1	20	FALSE									
7	6	1	20	FALSE									
8	7	1	20	FALSE									
9	8	1	20	FALSE									

4.6 The *Surface Fuels – Vegetation* protocol lets you sample the cover and height of live and dead, herb and shrubs. The codes for the four assessments are *HD* (Herb-Dead), *HL* (Herb-Live), *SD* (Shrub-Dead) and *SL* (Shrub-Live). In the *Item* field, enter each code once for each sample location.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCon	Comment	UV1	UV2	UV3	Index
2	1	1	10	FALSE	HD								
3	2	1	10	FALSE	HL								
4	3	1	10	FALSE	SD								
5	4	1	10	FALSE	SL								
6	5	1	20	FALSE	HD								
7	6	1	20	FALSE	HL								
8	7	1	20	FALSE	SD								
9	8	1	20	FALSE	SL								

4.7 The last column you need to complete is for the Vegetation Fuel Constant. Enter *Default* in the *VegFuCon* column for all 32 sample points.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Index	Transect	SampLoc	OffSet	Item	Cover	Height	VegFuCon	Comment	UV1	UV2	UV3	Index
2	1	1	10	FALSE	HD			Default					
3	2	1	10	FALSE	HL			Default					
4	3	1	10	FALSE	SD			Default					
5	4	1	10	FALSE	SL			Default					
6	5	1	20	FALSE	HD			Default					
7	6	1	20	FALSE	HL			Default					
8	7	1	20	FALSE	SD			Default					
9	8	1	20	FALSE	SL			Default					

4.8 The template is complete. The blank fields in the CSV file are the fields you will enter data in in FFI (if data was collected for the field). **Save** the CSV file and close Excel.

Exercise 5: Importing CSV template file

5.1 In **FFI Data Entry and Edit**, make sure you have the new sample event you created in Exercise 2 selected and make sure the *Surface Fuels – Vegetation* tab is selected.

The screenshot shows the 'Data Entry and Edit' window with a tree view on the left and a 'Data Entry and Edit Details' panel on the right. In the tree view, the '2022/12/16' event is selected. In the details panel, the 'Surface Fuels - Vegetation' tab is active and highlighted with a red box. Below the tabs, there are buttons for 'SAVE', 'CANCEL', 'FUEL CONSTANTS', 'DELETE', 'DELETE VISIT', 'IMPORT CSV', and 'EXPORT CSV'. The 'Visited' checkbox is checked. The 'Surface Fuels - Vegetation' section contains fields for 'Num. Transects' (set to 2), 'Collected By', and 'Entered/Verif. By'. To the right, there are fields for 'UV1 Description', 'UV2 Description', and 'UV3 Description'. At the bottom, a table shows the data entry grid with columns for View, Transect, Samp. Loc., Off Set, Item, Cover, Height, VegFuCon, and Con. The first row shows 'No' for Off Set and 'Default' for VegFuCon.

5.2 Click **IMPORT CSV**.

Data Entry and Edit Details

Picklist: Local Species

Trees | Cover_Frequency | Surface Fuels - Vegetation | Surface Fuels | Plot Description | Density - Quadrats | Biomass - Plants | Cover - Line Intercept | Post E

SAVE | CANCEL | FUEL CONSTANTS ▾ | DELETE | DELETE VISIT | **IMPORT CSV** | EXPORT CSV

Visited: Yes

Surface Fuels - Vegetation

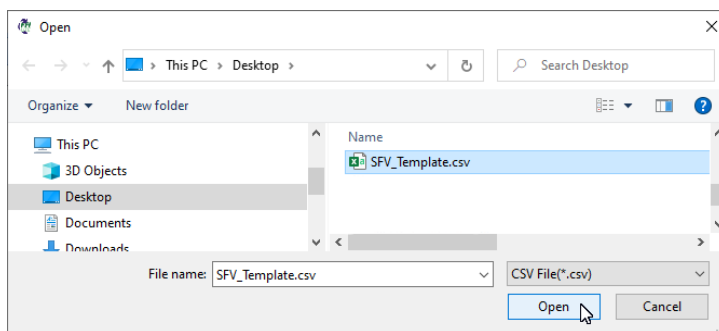
Num. Transects: 2 UV1 Description:

Collected By: UV2 Description:

Entered/Verif. By: UV3 Description:

View	Transect	Samp. Loc.	Off Set	Item	Cover	Height	VegFuCo
*				▼			

5.3 Navigate to *SFV_Template.csv* and click **Open**.



5.4 The template data is imported. Data entry will be faster and less error prone because all the predetermined field data has already been entered. For fields like *Offset* and the *VegFuCon* you can change it from the value that was imported from the CSV file when you are doing data entry, if needed. The form is now set up for entering *Cover* and *Height* data. Try entering some data in the columns if you want.

Data Entry and Edit Details

Picklist: Local Species

Trees | Cover_Frequency | Surface Fuels - Vegetation | Surface Fuels | Plot Description | Density - Quadrats | Biomass - Plants | Cover - Line Intercept | Post Burn Severity | Cover - Points | Cover - Points by Transect | Rare Plant Species | Cover - Species Composite

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

Visited: Yes

Surface Fuels - Vegetation

Num. Transects: 2 UV1 Description:

Collected By: UV2 Description:

Entered/Verif. By: UV3 Description:

View	Transect	Samp. Loc.	Off Set	Item	Cover	Height	VegFuCon	Comment	UV1	UV2	UV3
▶	1	10	No	HD			Default				
	1	10	No	HL			Default				
	1	10	No	SD			Default				
	1	10	No	SL			Default				
	1	20	No	HD			Default				
	1	20	No	HL			Default				
	1	20	No	SL			Default				

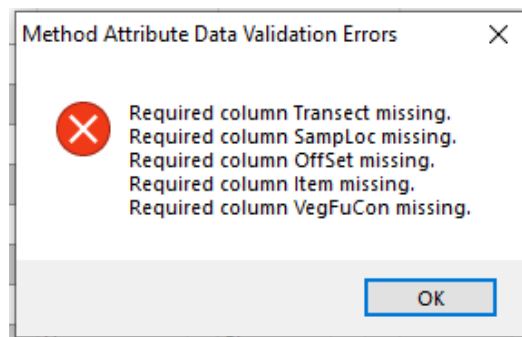
Notes for Importing CSV Template Data

1) Only Method Attributes are Imported

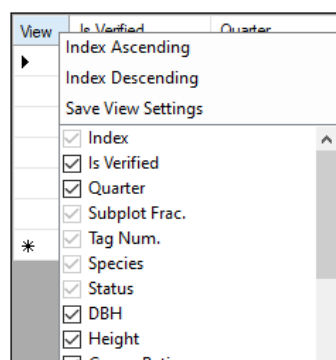
The CSV files only import method attributes (usually, these are the fields in the data grid). The sample attributes (the “header” data like *Plot Area* and *Number of Transects*) are copied over when you create a new sample event and then copy the protocols from a previous visit (like what you did in **2.4**). Or, you will manually enter the sample attributes if you do not copy the protocols from a previous visit.

2) Fields That FFI Requires

Every protocol/method has some required fields that will need to be in the CSV file when it is imported. The best way to find out what fields are required in a protocol is to create an empty CSV file and import it. The errors will show all the required fields. The screenshot shows the errors when importing an empty CSV file for *Surface Fuels – Vegetation*.



Another option is to click on the **View** button at the upper left of the data entry grid. Any fields that are grayed out are required. The screenshot shows *Index*, *Subplot Fraction*, *Tag Number*, *Species* and *Status* are required fields in the *Trees-Individuals* method.



CSV Data Import

Field data collected on CSV format on a device, like an iPad, can be imported into FFI but there are some caveats:

- 1) You should create a template in the Excel spreadsheet format (i.e., XLSX format, instead of CSV) so you can take advantage of Excel's *Data Validation* functionality. You can limit data values in a field. For example, in *Azimuth* fields, values can be limited to a range of 0 to 360. Limit-to-list fields, like fuel constant sets, can be limited to the fuel constants in your FFI database. You can create a spreadsheet tab for each protocol so all the protocols are in one spreadsheet file. After entering data in the template, save the spreadsheet tab in CSV format.
- 2) It is up to you to import the right CSV file into the right macro plot/sample event/protocol in your database. Using CSV file names that include the macro plot name and protocol are critical to making sure data is imported into the correct spot in the database (e.g., *DylanCkRx001_SFV.csv*).
- 3) FFI identifies species using a local species GUID that is different for each database. For any protocols/methods that have a Species dropdown in them, you need to create a lookup in Excel to link the species symbols to local species GUIDs, on each protocol tab. The local species GUID in the template must match the GUID in the database. The document named *CSV Import and Export Template Setup.pdf* on the *Other Documents>Help Documents* page on the FFI website (www.frames.gov/ffi). includes instructions for building an Excel template that includes a local species GUID lookup.
- 4) If you do electronic data collection, remember you won't have any hardcopy backups of your data so creating and saving database backups in a secure place is especially important. Saving database files on a remote server (like Box or OneDrive) is the safest option. Including the backup date in the database filename will help chronologically organize the database backups (e.g., *FFI_Lite_Training_Data_10514_Jan152023.SDF*).