



## Protocol Manager Exercises

The FFI Protocol Manager lets you create new custom protocols and manage existing protocols. New protocols are created by defining the names of each data field in the new protocol and assigning properties to the data fields. For example, you may name a data field *Cover* and use that field to store the percent cover of a sampled species. Then you will assign properties for the *Cover* field, such as, it must be an integer value and have minimum value of 0 and maximum value of 100. Once you have completed adding all the data fields you want in your new protocol you will “promote” the protocol so that it can be exported from Protocol Manager and then imported into FFI. When a protocol is exported the file has a *.pmd* extension. This file includes all the information FFI needs to create the data entry screens.

The standard FFI reports cannot be used to summarize data in custom protocols; you must use the Query tool.

### Protocol Terms

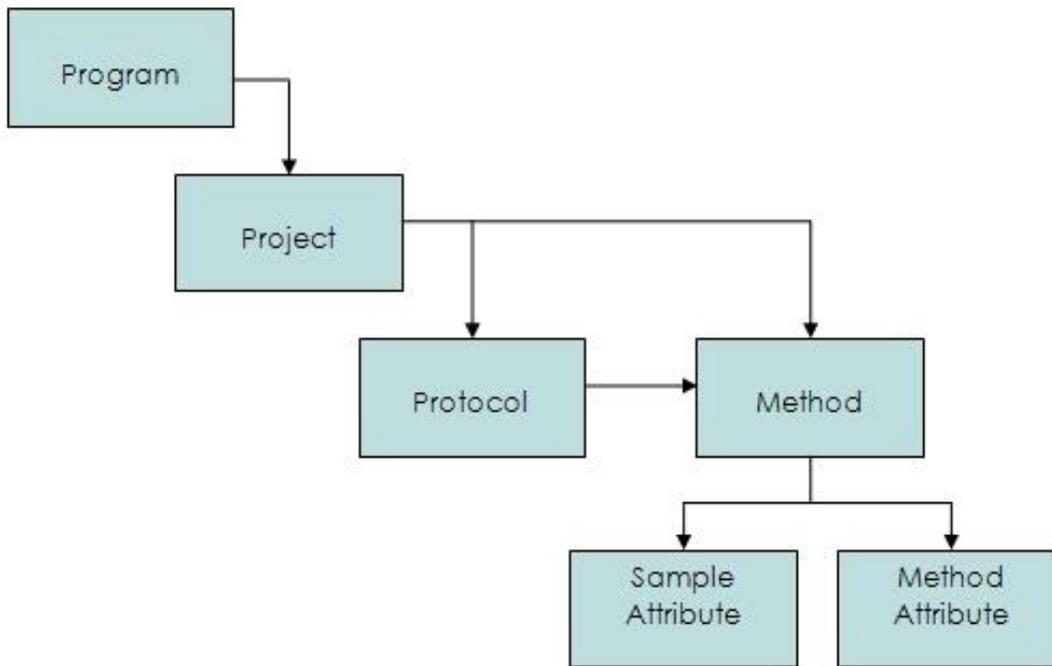
Protocol Manager uses a unique set of definitions that are readily adaptable to any ecological monitoring program:

- Project – a collection of monitoring sites within a specific geographic region, such as a watershed or subbasin, for which monitoring data is collected based on established, approved protocols.
- Program – a collection of projects that use a consistent set of protocols to collect monitoring data for specific sites within multiple geographic locations in response to a research question, or to meet an agency mission or mandate.
- Protocol – a set of one or more closely related methods, compiled by a researcher, monitoring agency, or other entity, that are used to collect, analyze, and report field monitoring data in a consistent way over time. Protocols are a means of organizing methods in terms of common or related characteristics, so that they can be efficiently filtered and located. A protocol can contain one or more methods, and methods may occur in one or more protocols.
- Method – a systematic procedure for collecting, analyzing, or reporting monitoring data consistently over time. Methods have these characteristics: they can be replicated by others and are described in documentation. In Protocol Manager, it is assumed that methods are contained within protocols, but this is not required. Methods can be created and maintained without protocols. Also, a method may occur in more than one protocol.

## Protocol Manager Exercises

- Attribute – a quantitative field measurement or summary value, or a qualitative descriptor, that represents conditions observed in the field.

### Hierarchy of Protocol Manager data



For more information also see the **Protocol Manager User Guide** posted on FRAMES.

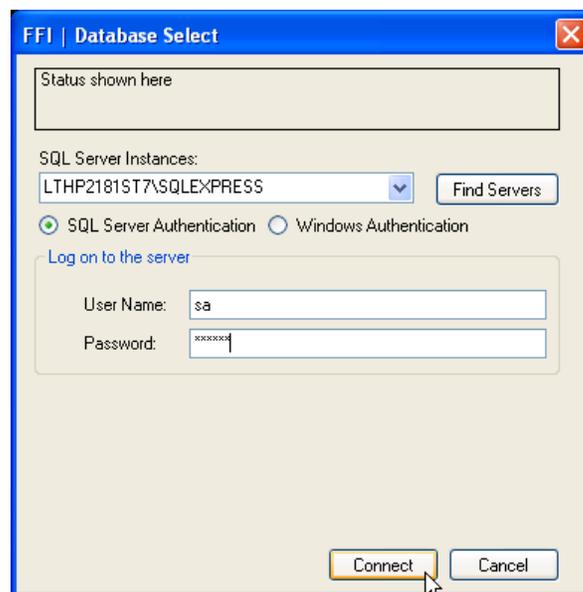
## Protocol Manager Exercises

In these exercises you will:

- 1) [Create a new Protocol Manager database](#)
- 2) [Import protocols](#)
- 3) [Explore protocols](#)
- 4) [Plan the method](#)
- 5) [Create the new Program and Project](#)
- 6) [Create new Protocols and Methods](#)
- 7) [Build the DWM – Log Condition method](#)
- 8) [Add sample and method attributes for the DWM – Log Condition method](#)
- 9) [Change the order of attributes](#)
- 10) [Assign the methods to the protocol](#)
- 11) [Promote the DWM – Log Condition protocol](#)
- 12) [Assign the protocol to the project](#)
- 13) [Export the project from Protocol Manager and import the protocol in FFI](#)
- 14) [Assign the protocol to an FFI sample event](#)
- 15) [Test the new protocol in FFI Data Entry and Edit](#)
- 16) [Delete unused protocols](#)

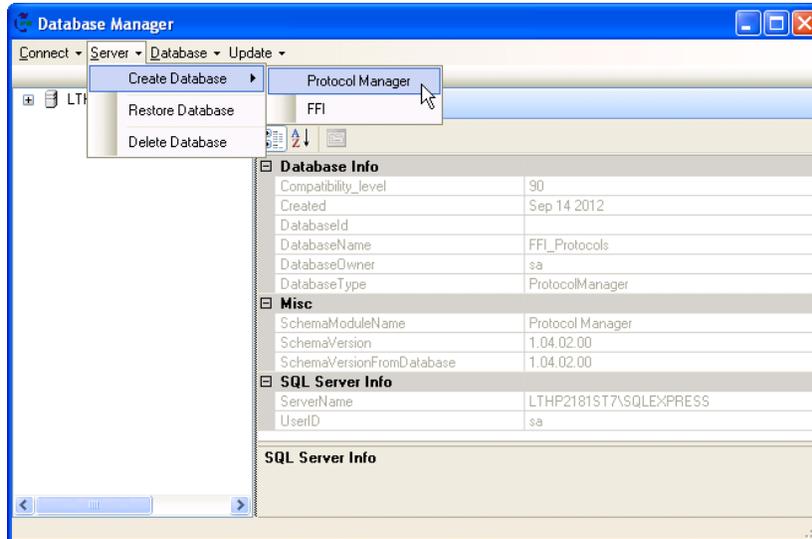
### Exercise 1: Create a new Protocol Manager database

- 1.1 Launch the **FFI Database Administration** program.
- 1.2 Connect to a SQL Server database.

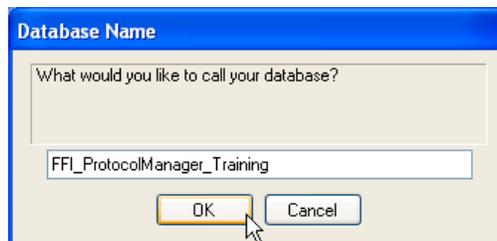


## Protocol Manager Exercises

**1.3** Select **Server>Create Database>Protocol Manager** to create a database to store the protocol. All of your protocols can be stored in one database.



**1.4** Name the database *FFI\_ProtocolManager\_Training*. Click **OK** to create the database.

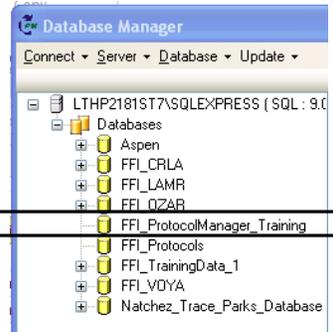


**1.5** A DOS window will open and a new database will be created.

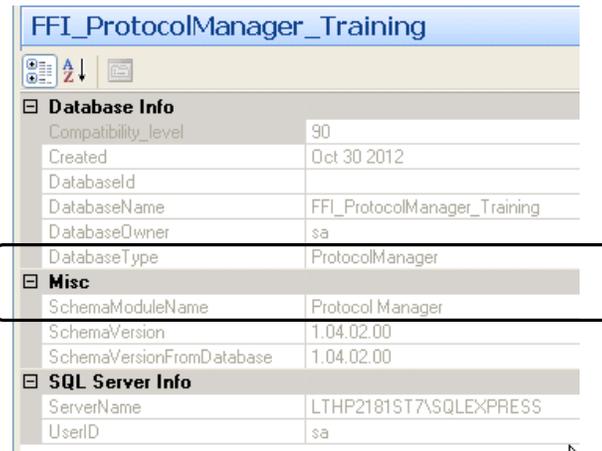


## Protocol Manager Exercises

- 1.6 When the DOS windows closes expand the directory tree view to locate the new database. Click once on the database name to highlight it.



- 1.7 Review the database properties. Specifically, note the **Database Type** and **SchemaModuleName** identify this as a Protocol Manager database.



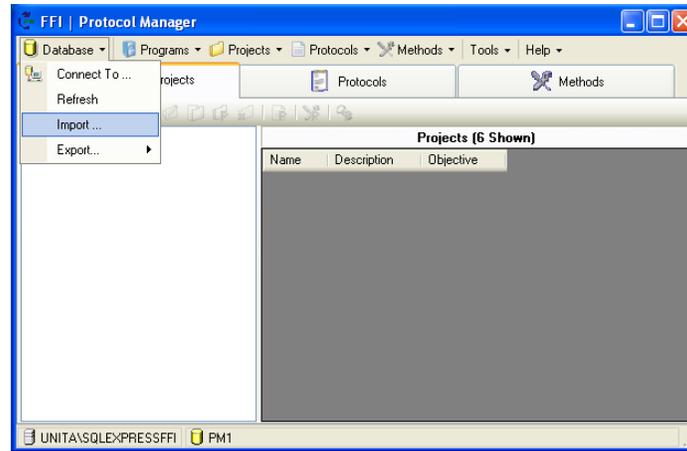
- 1.8 Close FFI Database Administration

### Exercise 2: Import Protocols

- 2.1 Launch Protocol Manager by double-clicking the **Protocol Manager** icon on your computer desktop.
- 2.2 Select your **SQL Server instance**, type in your **User Name** and **Password** and connect to the *FFI\_ProtocolManager\_Training* database.

## Protocol Manager Exercises

### 2.3 Select Database > Import...



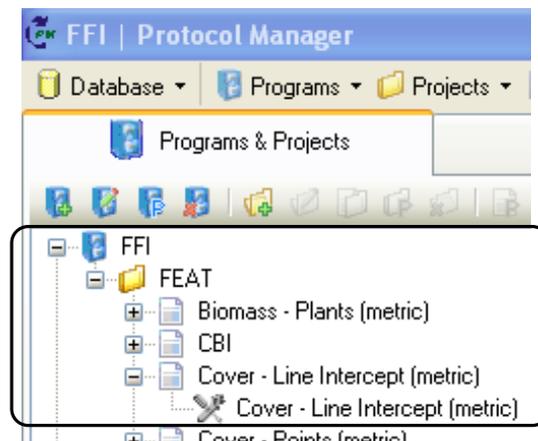
2.4 Navigate to a supplied Protocol Manager *.pmd* export file. You can use the *.pmd* file that was downloaded with FFI, if needed - *FFI\_Protocols\_XXXXX.pmd*.

2.5 Import the *.pmd* file. This will take a few moments.

### Exercise 3: Explore Protocols

3.1 In the **Programs and Projects** tab, expand the *FFI* program.

3.2 Explore the hierarchy down through *Programs*, *Projects*, *Protocols*, and *Methods*. Note the relationship of each. In the screen shot the *FFI* program has been expanded to show the *FEAT* project, *Cover-Line Intercept* protocol and *Cover-Line Intercept* method.



## Protocol Manager Exercises

### Exercise 4: Plan the method

**Problem:** Create a protocol for sampling the attributes of large diameter (>3 in.) down woody material on a 100 ft x 100 ft plot for assessing habitat for small terrestrial animals. The protocol will include these fields and field properties:

Name	Caption	Units	Data type	Min./Max. values	Codes	Description
<b>Sample Attributes</b>						
PlotSize	Plot Size	Sq. feet	Long integer			Size of sample area in sq. feet.
<b>Method Attributes</b>						
LogNo	Log Number	Not Defined	Long integer			Sequential log number
Species	Species	Not Defined	Species Dropdown			Species of the log
XCoord	X Coordinate	Feet	Decimal number			X coordinate of the mid-length point of the log within the plot
YCoord	Y Coordinate	Feet	Decimal number			Y coordinate of the mid-length point of the log within the plot
LogLength	Log Length	Feet	Decimal number			Length of the portion of the log within the plot
LogCond	Log condition	Not Defined	Text field		SoundR otten	Log condition
LogAzi	Log Azimuth	Degrees	Long integer	0 / 359		Direction of fall – Large end to small end
Comments	Comments	Not Defined	Text field			Comments

When developing your own protocols consider these questions:

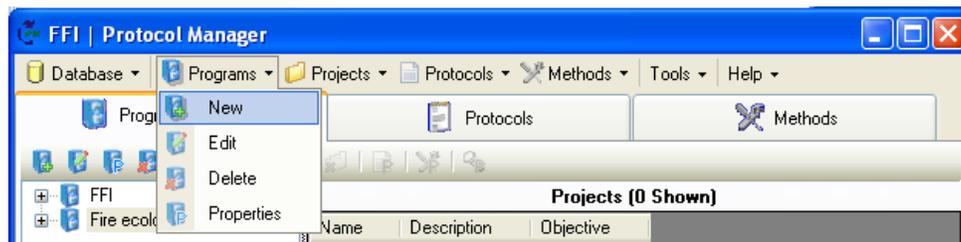
- What data fields will the protocol require?
- Which are sample attributes, and which are method attributes?
- What properties are needed for each data field?
- Should any of these values be part of the macro plot instead?

## Protocol Manager Exercises

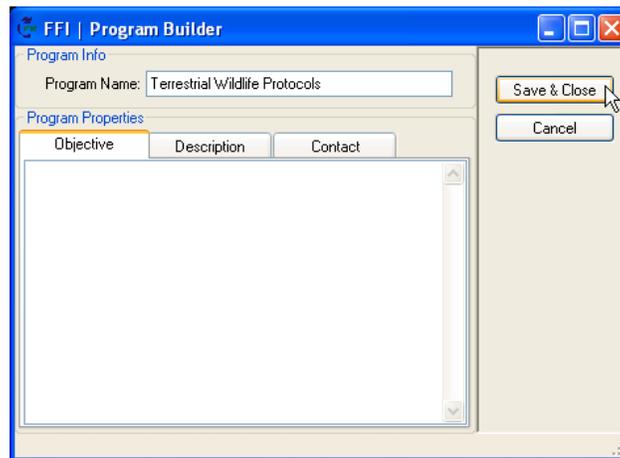
### Exercise 5: Create a New Program and Project

In Protocol Manager, *Programs* and *Projects* are used to logically organize the various protocols and method in the database.

- 5.1 If you are not already logged into it, log in to the Protocol Manager *FFI\_ProtocolManager\_Training* database that you created in Exercise 1.
- 5.2 Select **Programs > New...** to create a new program.



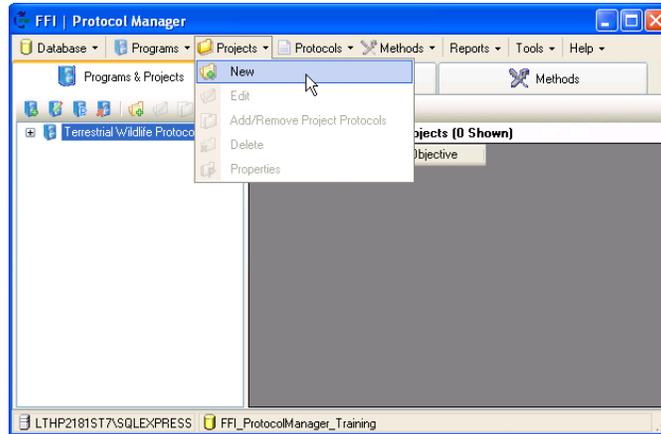
- 5.3 Name the new program *Terrestrial Wildlife Protocols* and click **Save & Close**.



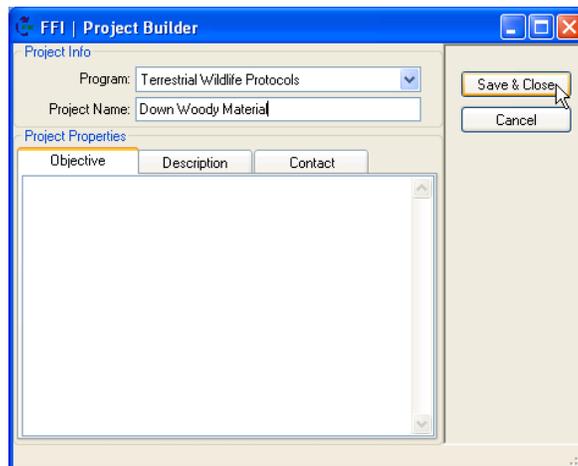
*NOTE: The Program Builder window, and a number of others that follow, includes tabs for **Objective**, **Description** and **Contact**. If you are creating a protocol that will be used in a monitoring project you may want to complete the information on these tabs. For this exercise you don't need to enter any information.*

## Protocol Manager Exercises

- 5.4 Highlight the new program in the tree view and select **Projects > New** to create a new project.



- 5.5 Name the new project *Down Woody Material* and click **Save & Close**.

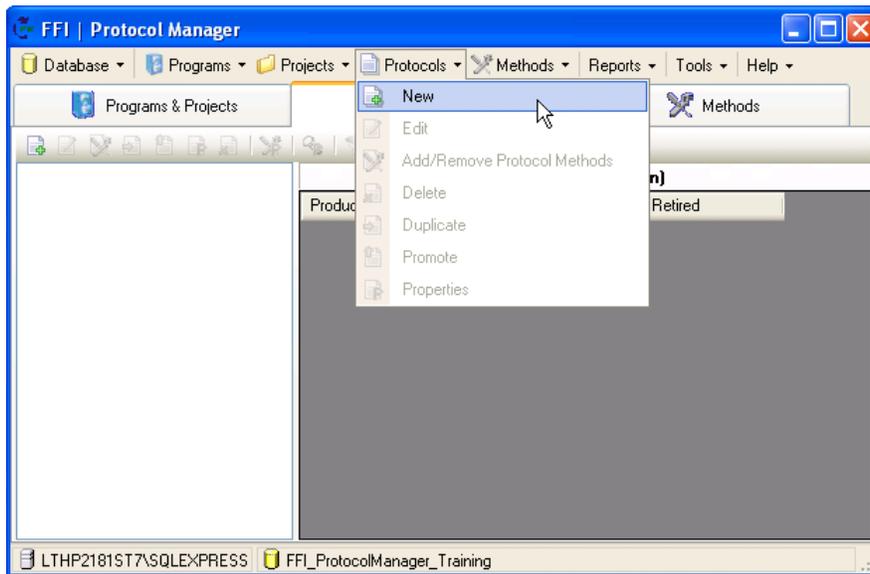


## Protocol Manager Exercises

### Exercise 6: Create New Protocols and Methods

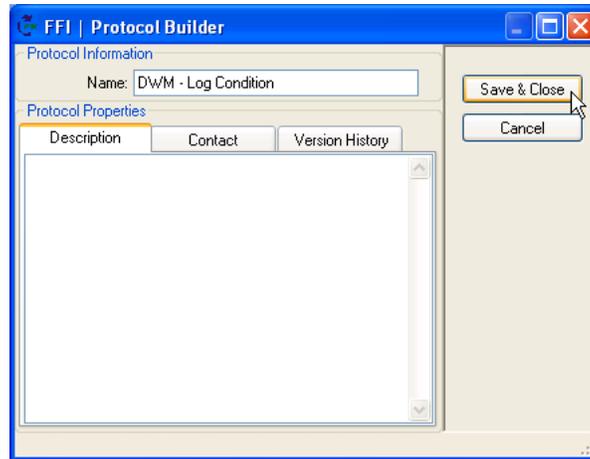
In FFI, *Methods* are combined to create *Protocols*. The characteristics that differentiate methods and protocols are completely subjective. For example, in this exercise one person may think the location fields (X- and Y-Coordinates) are one method and the fields describing the logs (diameter, condition, etc.) are another method. Then the complete protocol would be a combination of the two methods. An important thing to note is that even though multiple methods make one protocol, each method will have its own tab in FFI Data Entry and Edit. Thus, in most cases, it is best to create protocols with just one method.

- 6.1 To create a protocol within the new project, click the **Protocols** tab, then select **Protocols > New**.



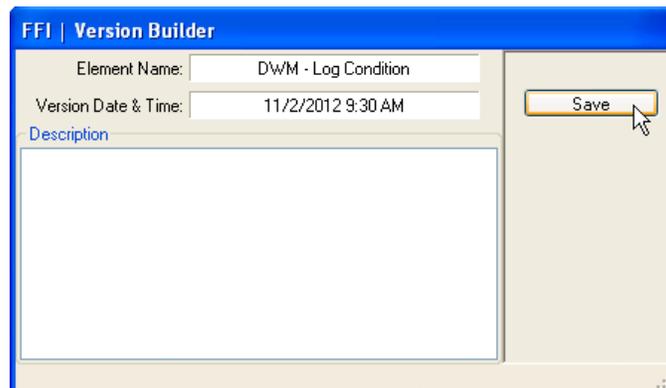
## Protocol Manager Exercises

6.2 Name the new protocol *DWM - Log Condition*. Click **Save & Close**



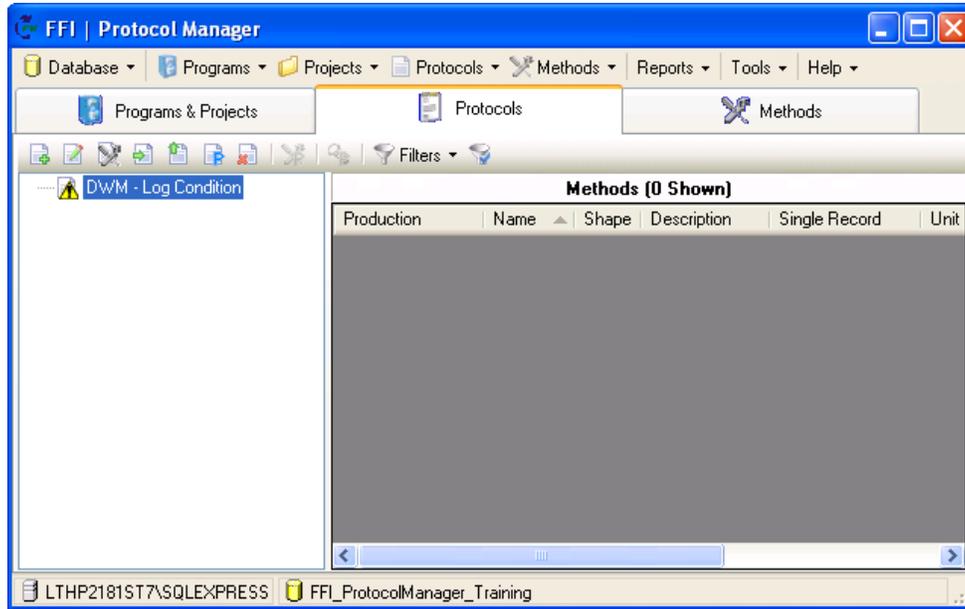
*NOTE: In almost all cases you will create several versions of a method and/or protocol before you have one you want to use in the field. However, once a method or protocol is promoted you can't change the name. Thus, you should not start out by naming methods and protocols what you want them to be named in the end. This example exercise assumes you will build a perfect sampling protocol the first time.*

6.3 Click **Save** in the *Version Builder* dialog.



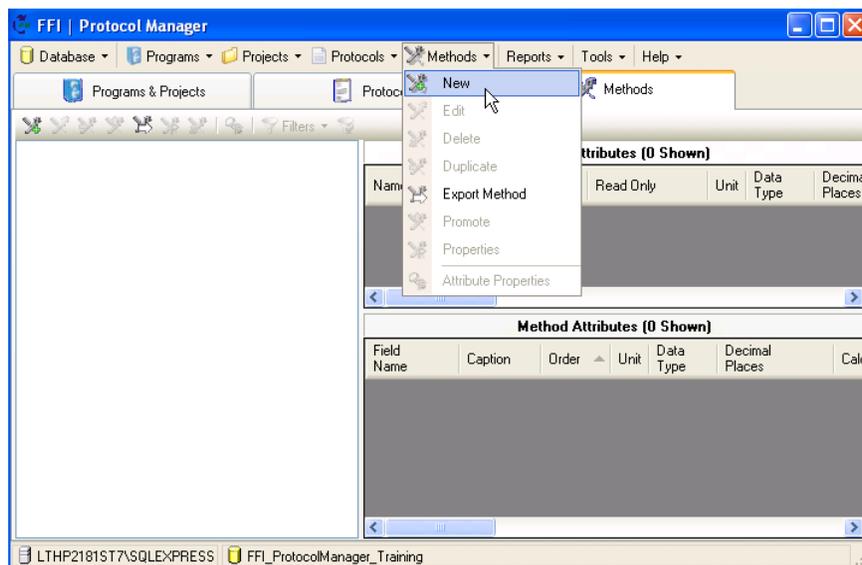
## Protocol Manager Exercises

- 6.4 The new protocol appears in the tree view marked with a yellow triangle which denotes a “development” protocol.



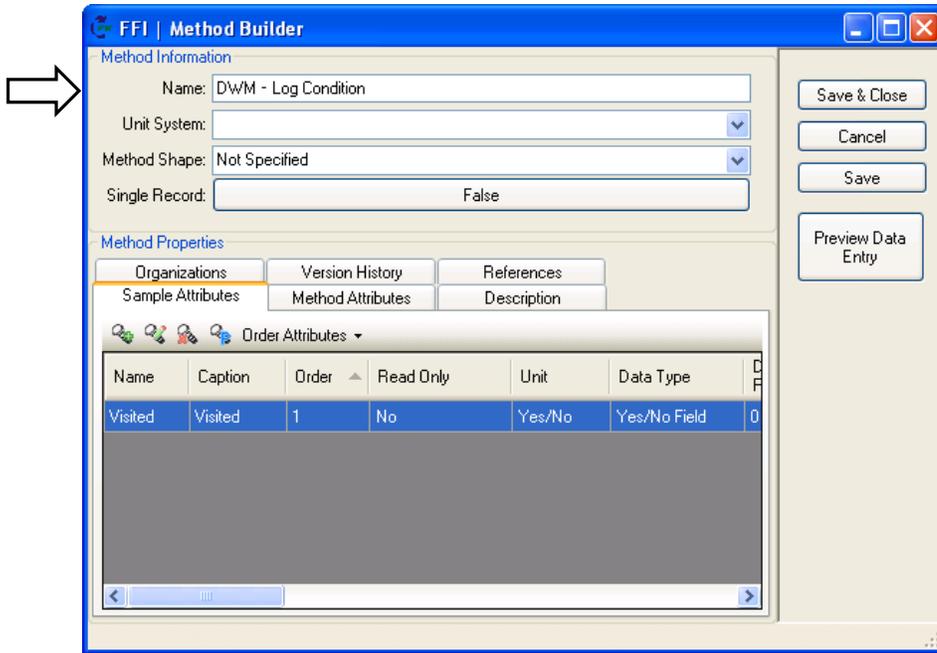
### Exercise 7: Build the DWM – Log Condition Method

- 7.1 To create the *DWM – Log Condition* method, click the **Methods** tab then select **Methods > New** from the menu bar at the top of the screen.



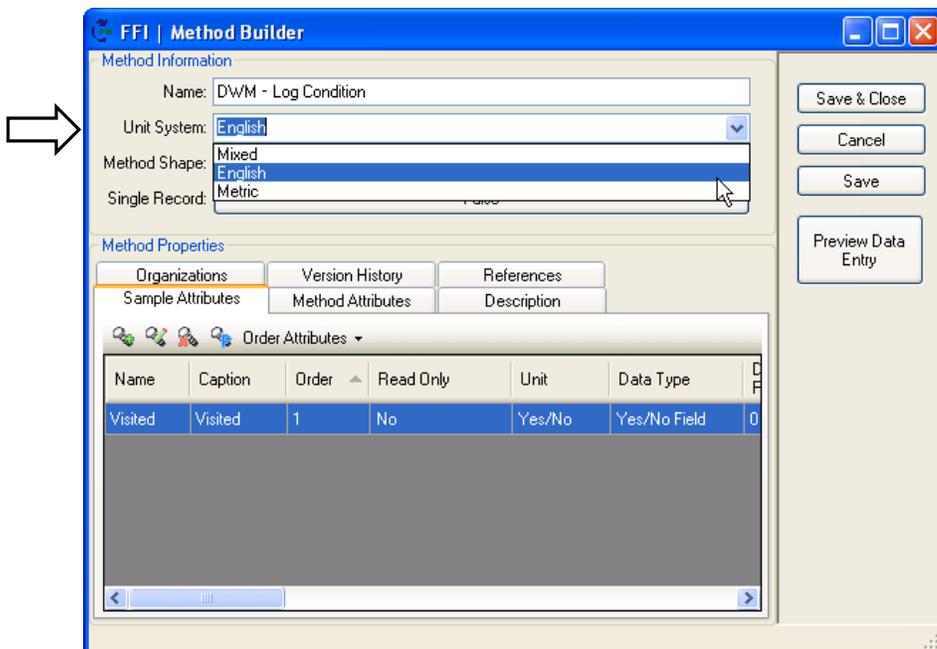
## Protocol Manager Exercises

7.2 In the **Method Builder** dialog, name the method *DWM – Log Condition*.



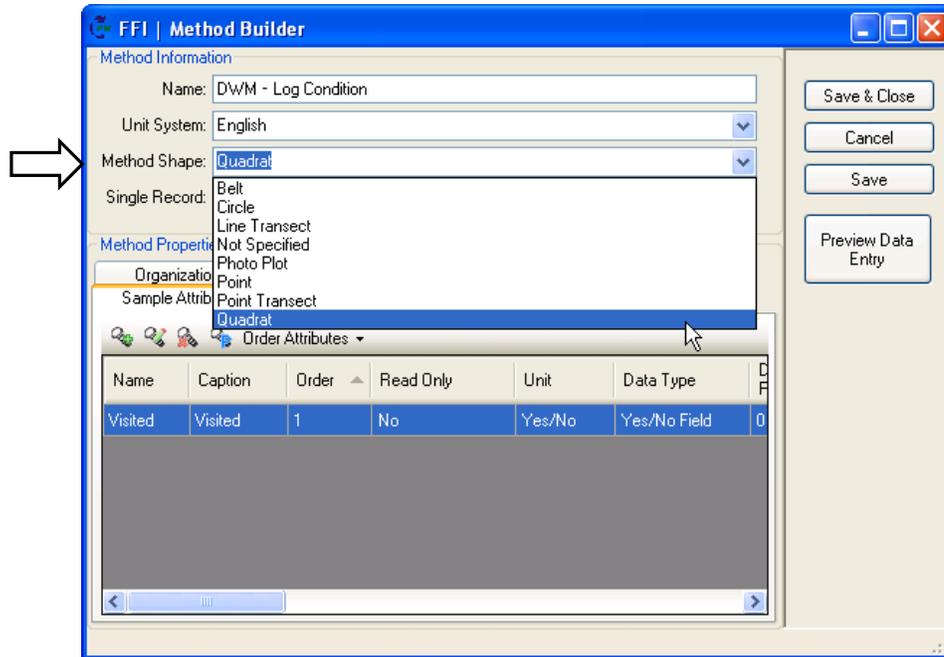
*NOTE: The Sample Attribute **Visited** is already created. This attribute is used in analysis for calculations such as total area, and cannot be deleted or changed.*

7.3 Click the down arrow at the right of the **Unit System** field and set the method units to *English*.

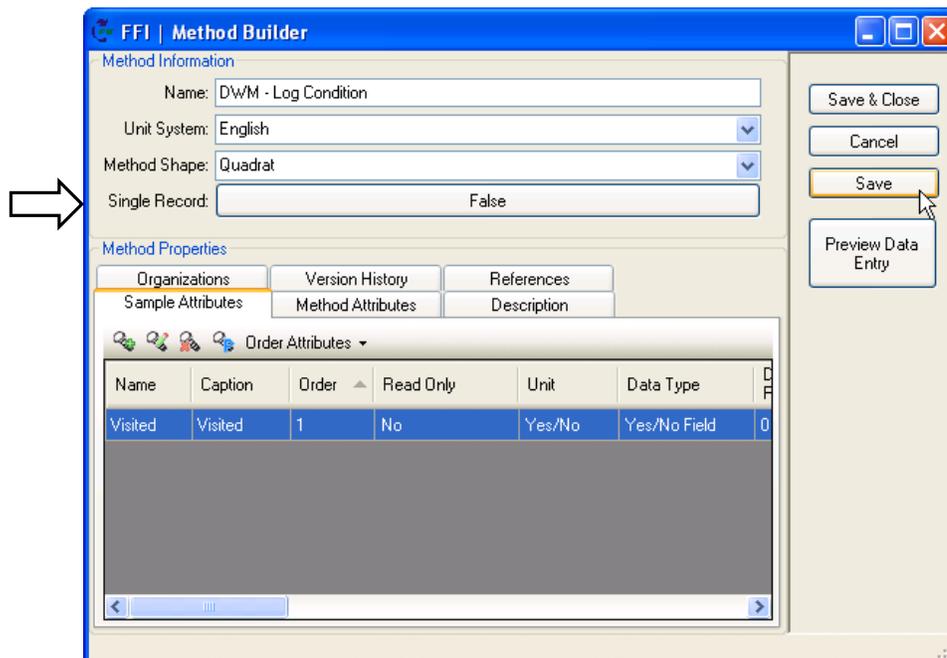


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7.4 In the **Method Shape** field select *Quadrat*.



7.5 Leave **Single Record** as *False* because you will record data for multiple logs on each macro plot. Click **Save** (not "Save & Close". We are not done with the Method Builder.)

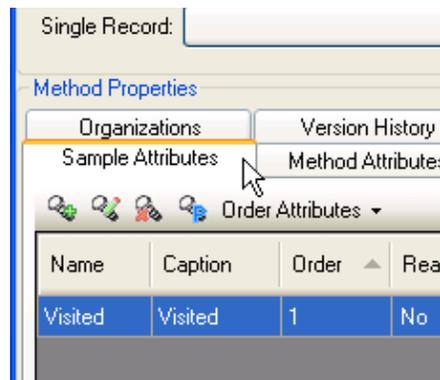


## Protocol Manager Exercises

### Exercise 8: Add Sample and Method Attributes for the DWM – Log Condition Method

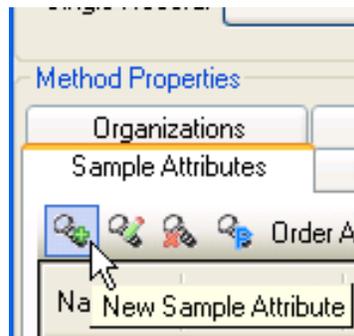
Sample attributes are data fields that describe the characteristics of the sampling area and contain other information about how and where the method attributes were collected. For example, quadrat size and number of quadrats are sample attributes.

**8.1** In the **Method Builder**, click the **Sample Attributes** tab, if not already selected.



*NOTE: The Sample Attribute **Visited** is already created. This attribute is used in analysis for calculations such as total area, and cannot be deleted or changed.*

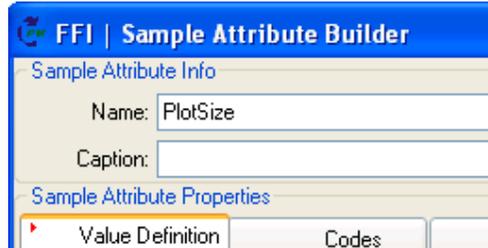
**8.2** Click the **New Sample Attribute** icon on the **Sample Attributes** tab.



**8.3** In **Sample Attribute Builder** window assign a **Name** to the sample attribute you are adding. Assign the name *PlotSize*.

*NOTE: Sample attribute names cannot include spaces.*

## Protocol Manager Exercises



FFI | Sample Attribute Builder

Sample Attribute Info

Name: PlotSize

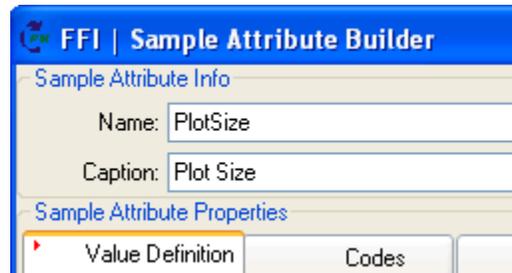
Caption:

Sample Attribute Properties

Value Definition Codes

- 8.4** The **Caption** is the field name the user sees during data entry and analysis. Title the caption *Plot Size*.

*NOTE: Sample attribute captions can include spaces.*



FFI | Sample Attribute Builder

Sample Attribute Info

Name: PlotSize

Caption: Plot Size

Sample Attribute Properties

Value Definition Codes

- 8.5** Now you will use the fields on the **Value Definition** tab to describe the attributes of the *Plot Size* field. If not already selected click the **Value Definition** tab to view the available fields. See the Value Definition descriptions at the end of the exercises for more information about these fields.

## Protocol Manager Exercises

- 8.6** Set the fields for *Plot Size* on the **Value Definition** tab as shown in the screen shot below. Fields with down arrows on the right are limited to the dropdown list items. Fields with up and down arrows on the right can be incremented by clicking the arrows or a value can be typed in the field. Click the *True/False* fields to toggle.

The screenshot shows the 'FFI | Sample Attribute Builder' dialog box. The 'Sample Attribute Info' section has 'Name: PlotSize' and 'Caption: Plot Size'. The 'Sample Attribute Properties' section has three tabs: 'Value Definition', 'Codes', and 'Description'. The 'Value Definition' tab is active and contains the following fields:

Field	Value
Unit:	Square Feet
Data Type:	Decimal Number
Precision:	2
Read Only:	False
Limit Codes to List:	False
Default Value:	100
Minimum Value:	0
Maximum Value:	10000
Value Length:	0
Allow Null:	False
Visible:	True
Data Level:	Not Defined

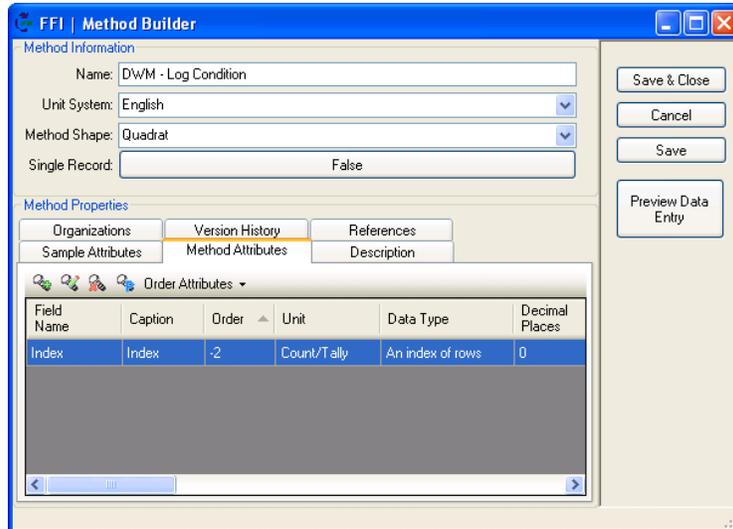
The 'OK & Close' button is highlighted with a mouse cursor.

*NOTE: The selections shown are not the only options - you could decide to use other values. For example: **Unit** could be Acres, you could leave **Default** blank or use different **Minimum** and **Maximum** values.*

- 8.7** There are no **Codes** for this field so you can skip that tab. Click the **Description** tab and enter the description: *Size of sample area in sq. feet*. This text will be displayed when you hover the cursor over *Plot Size* field in Data Entry and Edit. Click **OK & Close** when done.

## Protocol Manager Exercises

- 8.8 The *Plot Size* field is the only Sample Attribute so now click on the **Method Attribute** tab and note that the *Index* field is already added by default.



*NOTE: The Method Attribute **Index** is already created. This attribute is used to order data and cannot be deleted or changed.*

- 8.9 Click the **New Method Attribute** icon to add the *Log Number* field.



## Protocol Manager Exercises

- 8.10** Set the fields for *Log Number* as shown in the screen shot. Note that **Allow Null** is set to *False* meaning this is a required field.

The screenshot shows the 'FFI | Method Attribute Builder' dialog box. The 'Method Attribute Info' section has 'Name: LogNo' and 'Caption: Log Number'. The 'Method Attribute Properties' section has three tabs: 'Value Definition', 'Codes', and 'Description'. The 'Value Definition' tab is active, showing the following settings:

Unit:	Not Defined
Data Type:	Long Integer
Precision:	0
Roll Down:	False
Limit Codes to List:	True
Default Value:	
Minimum Value:	
Maximum Value:	
Value Length:	0
Allow Null:	False
Visible:	True
Data Level:	Not Defined

Buttons for 'OK & Close' and 'Cancel' are visible on the right side.

- 8.11** There are no **Codes** for this field so click on the **Description** tab and enter the description: *Sequential log number*. Click **OK & Close** when done.
- 8.12** Click the **New Method Attribute** icon and add the *Species* field with the settings shown in the screen shot. When **Data Type** set to *A Species Lookup Column* it will always be limited to list regardless of the **Limit Codes to List** setting.

The screenshot shows the 'FFI | Method Attribute Builder' dialog box. The 'Method Attribute Info' section has 'Name: Species' and 'Caption: Species'. The 'Method Attribute Properties' section has three tabs: 'Value Definition', 'Codes', and 'Description'. The 'Value Definition' tab is active, showing the following settings:

Unit:	Not Defined
Data Type:	A Species Lookup Column
Precision:	0
Roll Down:	False
Limit Codes to List:	True
Default Value:	
Minimum Value:	
Maximum Value:	
Value Length:	0
Allow Null:	False
Visible:	True
Data Level:	Not Defined

Buttons for 'OK & Close' and 'Cancel' are visible on the right side.

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- 8.13** When **Data Type** set to *A Species Lookup Column* the codes are automatically assigned from the local species list so you don't need to add anything on the **Codes** tab. Click the **Description** tab and add: *Species of the log*. Click **OK & Close** when done.
- 8.14** Click the **New Method Attribute** icon and add the *X Coordinate* field with the field settings shown in the screen shot. Note that **Allow Null** is set to *True* so this is not a required field. Add: *X coordinate of the mid-length point of the log within the plot* on the **Description** tab. Click **OK & Close** when done.

FFI | Method Attribute Builder

Method Attribute Info

Name: XCoord

Caption: X Coordinate

Method Attribute Properties

Value Definition Codes Description

Unit: Feet

Data Type: Decimal Number

Precision: 2

Roll Down: False

Limit Codes to List: False

Default Value:

Minimum Value:

Maximum Value:

Value Length: 0

Allow Null: True

Visible: True

Data Level: Not Defined

OK & Close

Cancel

## Protocol Manager Exercises

- 8.15** Click the **New Method Attribute** icon and add the *Y Coordinate* field with the field settings shown in the screen shot. Add: *Y coordinate of the mid-length point of the log within the plot* on the **Description** tab. Click **OK & Close** when done.

The screenshot shows the 'FFI | Method Attribute Builder' dialog box. The 'Method Attribute Info' section has 'Name: YCoord' and 'Caption: Y Coordinate'. The 'Method Attribute Properties' section has three tabs: 'Value Definition', 'Codes', and 'Description'. The 'Value Definition' tab is active, showing the following settings:

Unit:	Feet
Data Type:	Decimal Number
Precision:	2
Roll Down:	False
Limit Codes to List:	False
Default Value:	
Minimum Value:	
Maximum Value:	
Value Length:	0
Allow Null:	True
Visible:	True
Data Level:	Not Defined

Buttons for 'OK & Close' and 'Cancel' are visible on the right side of the dialog.

- 8.16** Click the **New Method Attribute** icon and add the *Log Length* field with the field settings shown in the screen shot. Add: *Length of the portion of the log within the plot* on the **Description** tab. Click **OK & Close** when done.

The screenshot shows the 'FFI | Method Attribute Builder' dialog box. The 'Method Attribute Info' section has 'Name: LogLength' and 'Caption: Log Length'. The 'Method Attribute Properties' section has three tabs: 'Value Definition', 'Codes', and 'Description'. The 'Value Definition' tab is active, showing the following settings:

Unit:	Feet
Data Type:	Decimal Number
Precision:	2
Roll Down:	False
Limit Codes to List:	True
Default Value:	
Minimum Value:	
Maximum Value:	
Value Length:	0
Allow Null:	True
Visible:	True
Data Level:	Not Defined

Buttons for 'OK & Close' and 'Cancel' are visible on the right side of the dialog.

## Protocol Manager Exercises

- 8.17** Click the **New Method Attribute** icon and add the *Log Condition* field with the field settings shown in the screen shot.

The screenshot shows the 'Method Attribute Builder' dialog box. The 'Method Attribute Info' section has 'Name: LogCond' and 'Caption: LogCondition'. The 'Method Attribute Properties' section is currently on the 'Value Definition' tab. The properties are as follows:

Unit:	Not Defined
Data Type:	Text Field
Precision:	0
Roll Down:	False
Limit Codes to List:	True
Default Value:	
Minimum Value:	
Maximum Value:	
Value Length:	0
Allow Null:	False
Visible:	True
Data Level:	Not Defined

- 8.18** This field will have two codes on a dropdown list: *Sound* and *Rotten*. Click the **Codes** tab and enter the data as shown in the screen shot.

The screenshot shows the 'Method Attribute Builder' dialog box with the 'Codes' tab selected. The 'Method Attribute Info' section remains the same. The 'Codes' tab displays a table with the following data:

Order Codes	Code	Text	Active	Description
	Sound	Sound	<input checked="" type="checkbox"/>	Sound log
	Rotten	Rotten	<input checked="" type="checkbox"/>	Rotten log
*			<input type="checkbox"/>	

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*NOTE: the Code, Text and Description fields are all visible when clicking on a dropdown list in FFI. When protocols are used on a PDA only the Description field is visible so if you plan to use your protocol on a PDA make sure the Description field contains enough information to define the data.*

- 8.20** Add: *Log condition* on the **Description** tab. Click **OK & Close** when done.
- 8.21** Click the **New Method Attribute** icon and add the *Log Azimuth* field with the field settings shown in the screen shot. Add: *Direction of fall - Large end to small end* on the **Description** tab. Note that **Minimum** and **Maximum** fields will limit the azimuth that is entered from 0 to 359 degrees. Click **OK & Close** when done.

The screenshot shows the 'Method Attribute Builder' dialog box with the following settings:

Method Attribute Info	
Name:	LogAzi
Caption:	Log Azimuth

Method Attribute Properties	
Value Definition	Description
Unit:	Decimal Degrees
Data Type:	Long Integer
Precision:	0
Roll Down:	False
Limit Codes to List:	False
Default Value:	
Minimum Value:	0
Maximum Value:	359
Value Length:	0
Allow Null:	True
Visible:	True
Data Level:	Not Defined

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- 8.22** Click the **New Method Attribute** icon and add the *Comments* field with the field settings shown in the screen shot. Add: *Comments - max. 50 characters* on the **Description** tab. Note that **Value Length** field will limit the length of the field to 50 characters. Click **OK & Close** when done.

FFI | Method Attribute Builder

Method Attribute Info

Name: Comments

Caption: Comments

Method Attribute Properties

Value Definition Codes Description

Unit: Not Defined

Data Type: Text Field

Precision: 0

Roll Down: False

Limit Codes to List: False

Default Value:

Minimum Value:

Maximum Value:

Value Length: 50

Allow Null: True

Visible: True

Data Level: Not Defined

OK & Close

Cancel

- 8.23** Review the **Method Attribute** selections you have made on the **Method Builder** window. Be sure to scroll to the right to see all of the settings.

FFI | Method Builder

Method Information

Name: DWM - Log Condition

Unit System: English

Method Shape: Quadrat

Single Record: False

Method Properties

Organizations Version History References

Sample Attributes Method Attributes Description

Order Attributes

Name	Caption	Order	Unit	Data Type
x	Index	-2	Count/Tally	An index of rows
No	Log Number	2	Not Defined	Long Integer
Species	Species	3	Not Defined	A Species Lookup Column
ord	X Coordinate	4	Feet	Decimal Number
ord	Y Coordinate	5	Feet	Decimal Number
Length	Log Length	6	Feet	Decimal Number
Cond	LogCondition	7	Not Defined	Text Field
Azi	Log Azimuth	8	Decimal Degrees	Long Integer
Comments	Comments	9	Not Defined	Text Field

Save & Close

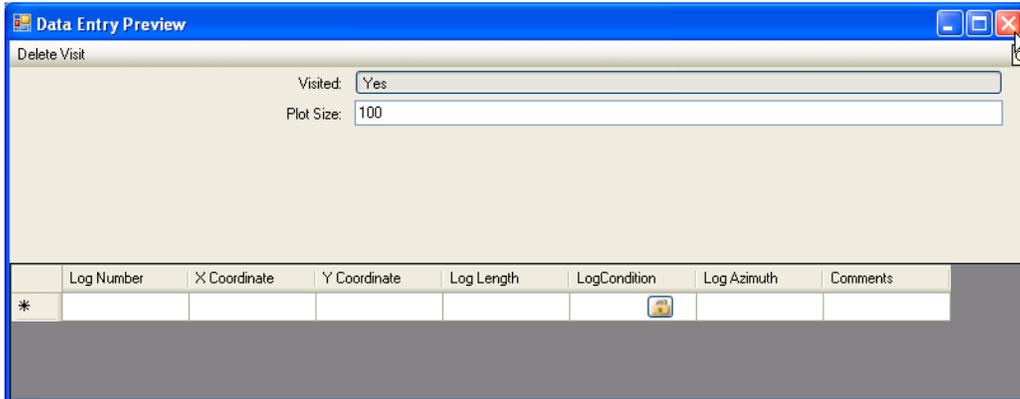
Cancel

Save

Preview Data Entry

## Protocol Manager Exercises

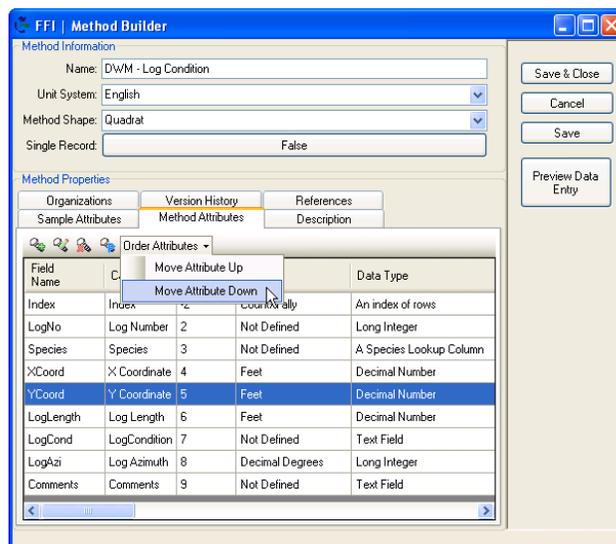
**8.24** Click the **Preview Data Entry** button on the right side of the Method Builder window to see what the protocol will look like in Data Entry and Edit. Any fields defined as *A Species Lookup Column* will not be seen on the preview. Click the red X in the upper right to close the preview.



### Exercise 9: Change the order of attributes

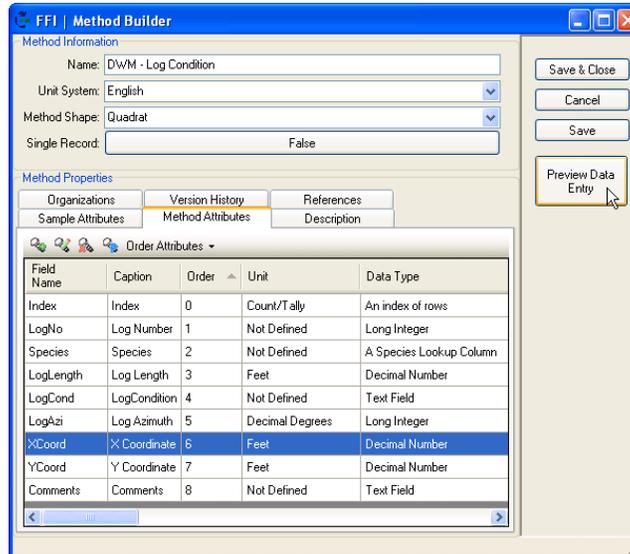
Assume that you want to reorder the Method Attributes so that the log coordinates will be to the right of the other log description fields when the protocol is viewed in Data Entry and Edit.

**9.1** Start by highlighting the row for the *Y Coordinate* by clicking on it once and then select **Order > Move Attribute Down**. This will move the field down one row. Repeat until the *Y Coordinate* field is right above *Comments*.

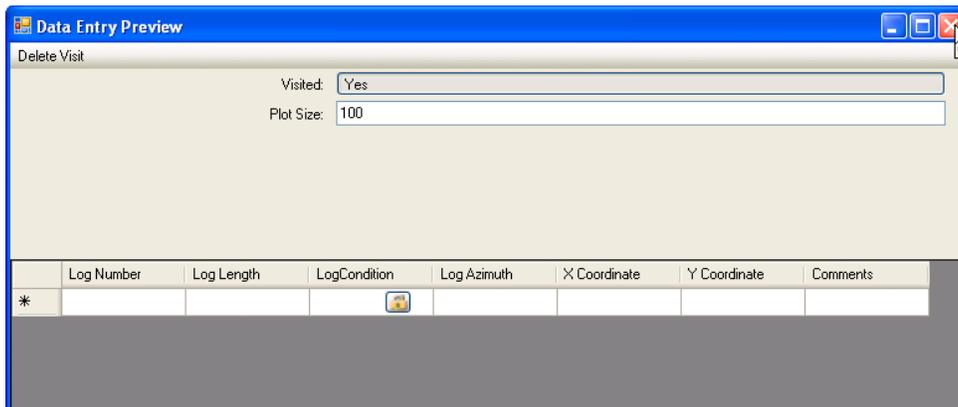


## Protocol Manager Exercises

- 9.2 Now follow the same steps to move the *X Coordinate* field down to be right above the *Y Coordinate* field.



- 9.3 Click the **Preview Data Entry** button to view the modified protocol. Click the red X when you are done looking at the preview. Then click **Save & Close** on the Method Builder window.

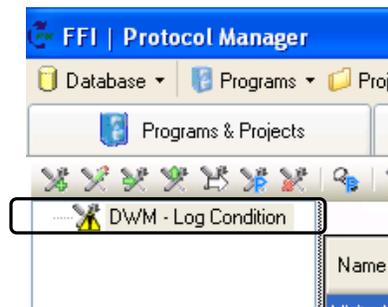


## Protocol Manager Exercises

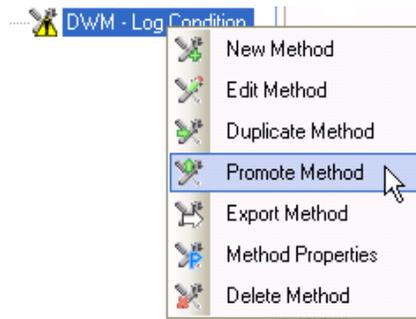
### Exercise 10: Assign the Methods to the Protocol

Once you are satisfied with the settings and order of the Method and Sample Attributes you can create a file to be exported from **Protocol Manager** and imported into **FFI** for further testing. The first step is to assign the method you just created to the *DWM – Log Condition* protocol.

**10.1** With the **Methods** tab still selected in the **Protocol Manager** window you will see a yellow triangle next to the method you just created indicating it is still in development.



**10.2** Before you assign a method to a protocol you need to promote the method from a “development” method to a “production” method. To promote the *DWM – Log Condition* method right-click on the method name and select **Promote Method**.

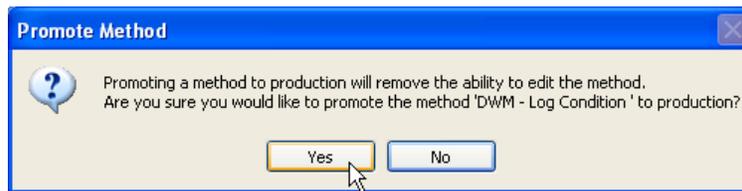


*NOTE: The dropdown list includes an option to **Duplicate** the method. Use this option when creating a new version of an existing method.*

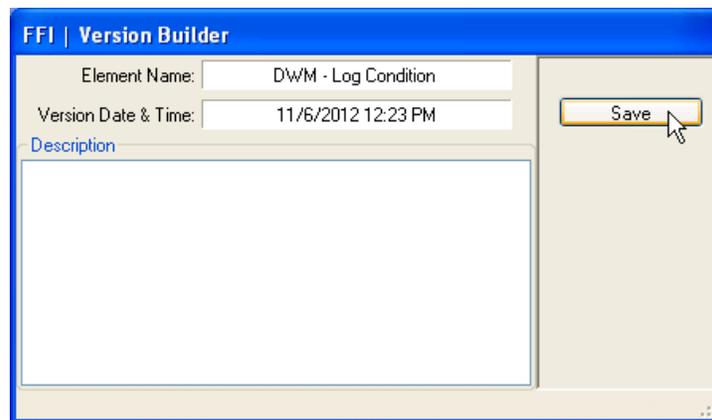
## Protocol Manager Exercises

- 10.3** A warning box will inform you that promoting the method will remove the opportunity to make any more changes to the method.

*NOTE: In almost all cases you will create several versions of a method and/or protocol before you have one you want to use in the field. However, once a method or protocol is promoted you can't change the name. Thus, you should not start by naming methods and protocols what you want them to be named in the end. This example exercise assumes you will build a perfect sampling protocol the first time.*



- 10.4** Click **Save** on the **Version Builder** window.

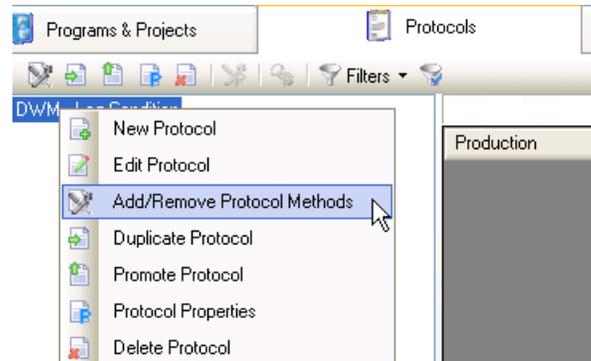


- 10.5** The method will no longer have the yellow triangle next to it.

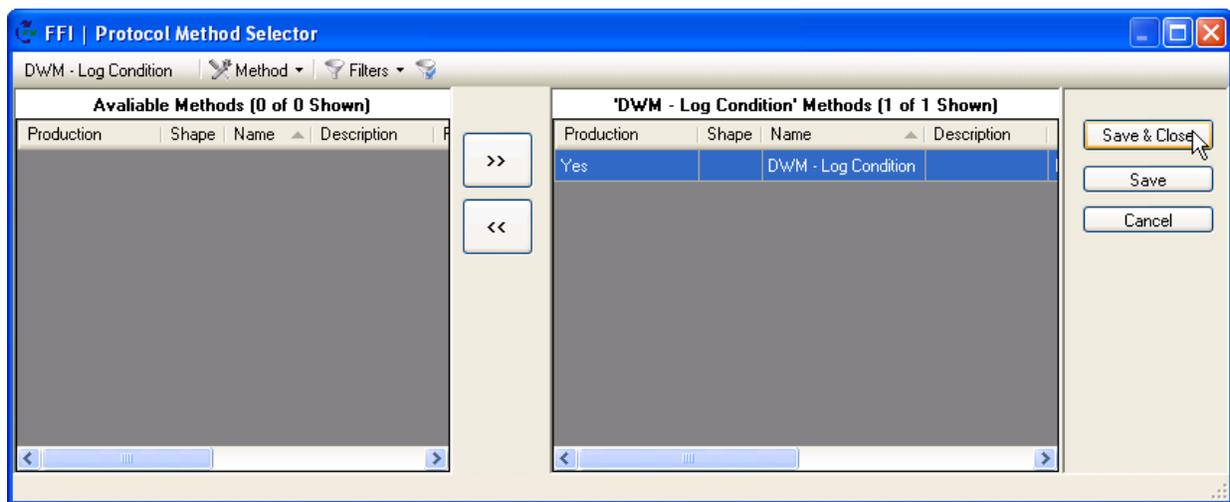


## Protocol Manager Exercises

- 10.6 Click the **Protocols** tab, right-click on *DWM – Log Condition* protocol in the tree view and select **Add/Remove Protocol Methods**.



- 10.7 In the **Protocol Method Selector** shift the *DWM – Log Condition* method from the left-hand list to the right-hand list by clicking the protocol name under **Available Methods** and then clicking the arrow in the middle. Click **Save & Close**.



- 10.8 Click the “+ sign next to the protocol name in the tree view and you will see the method now appears below it.

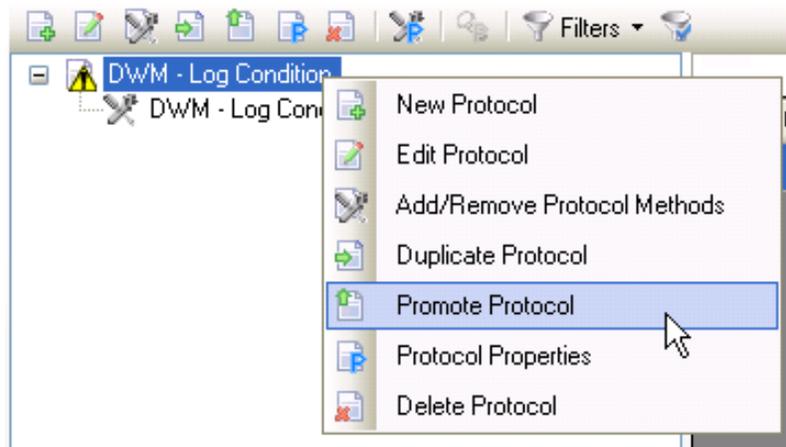


## Protocol Manager Exercises

### Exercise 11: Promote the *DWM – Log Condition* Protocol

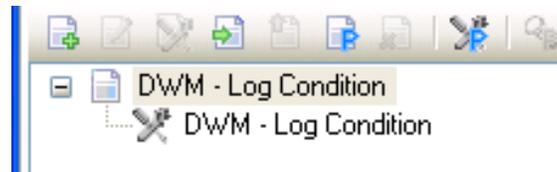
With the *DWM – Log Condition* method assigned to the protocol you can now promote the protocol.

**11.1** Click the **Protcols** tab, right-click the *DWM – Log Condition* protocol, select **Promote Protocol**. Click **Yes** to confirm and then click **Save** on the **Version Builder** window.



*NOTE: The dropdown list includes an option to **Duplicate** the protocol. Use this option when creating a new version of an existing protocol.*

**11.2** The protocol and method are displayed in the tree view without the yellow triangle.

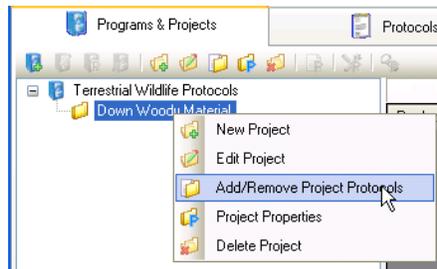


## Protocol Manager Exercises

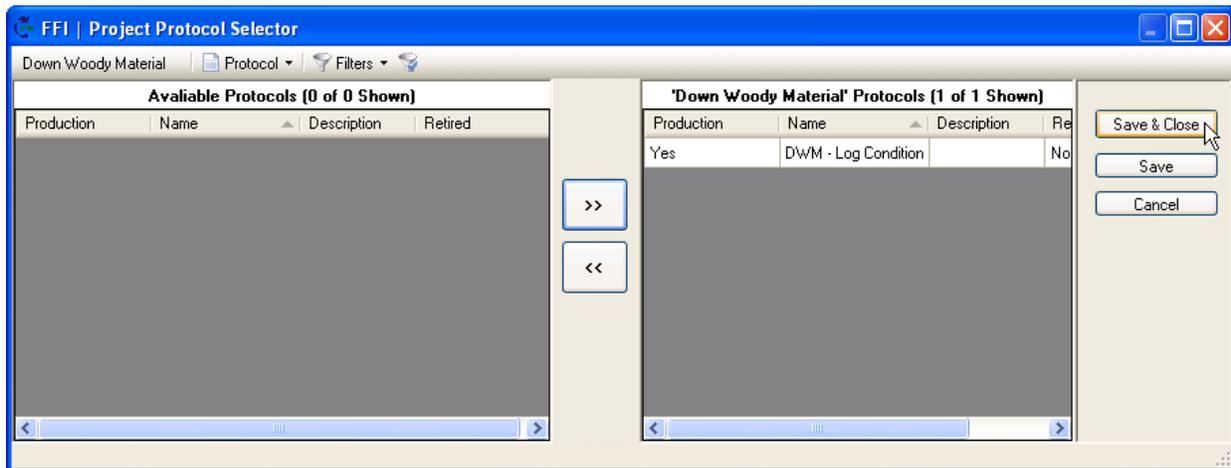
### Exercise 12: Assign the Protocol to the Project

This last step creates the complete hierarchy for the protocol and must be completed before it can be exported.

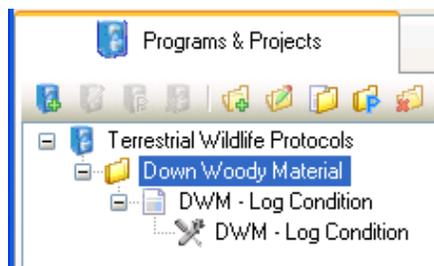
**12.1** Click on the **Programs and Projects** tab, click the “+” sign next to *Terrestrial Wildlife Protocols*, right click on *Down Woody Material* and select **Add/Remove Project Protocols**.



**12.2** In the **Project Protocol Selector** window, highlight *DWM – Log Condition* on the left and shift it to the right-hand box by clicking the arrow in the middle. Click **Save & Close**.



**12.3** In the tree view click the “+” signs next to each item to reveal the Program, Project, Protocol and Method hierarchy that you have created.

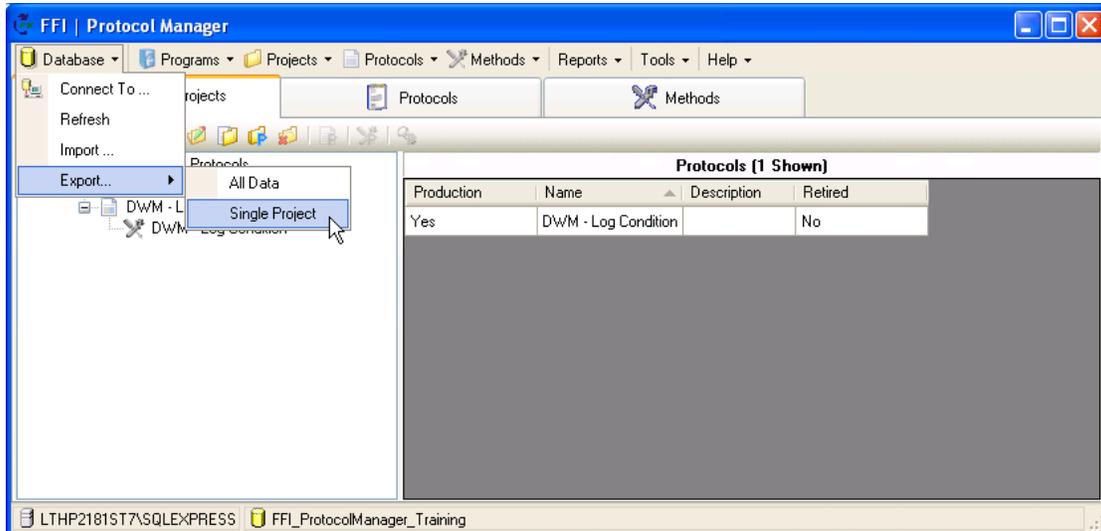


## Protocol Manager Exercises

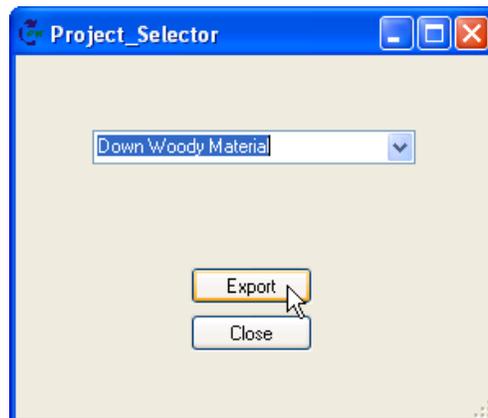
### Exercise 13: Export the project from Protocol Manager and import the protocol in FFI

Now that you have finished creating and organizing the protocol you can create the export file (.pmd) that can then be imported in FFI for testing.

#### 13.1 Select Database > Export... > Single Project.

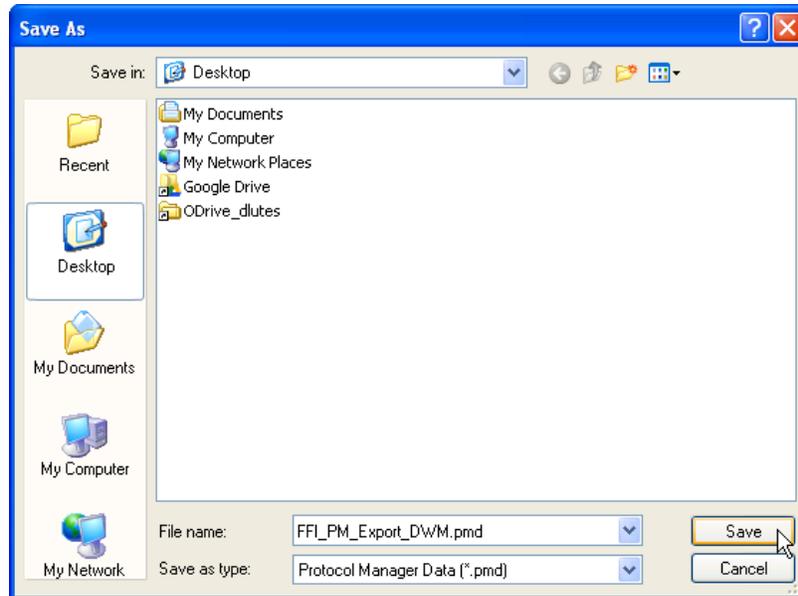


#### 13.2 In the Project Selector dialog, select *Down Woody Material* and click **Export**.



## Protocol Manager Exercises

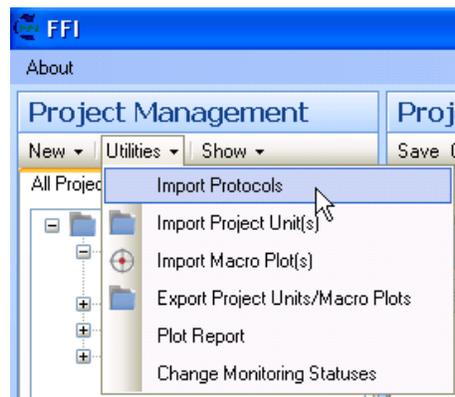
**13.3** Select a descriptive file name and **Save** the .pmd export file in a convenient place.



**13.4** Click **OK** on the window that appears.

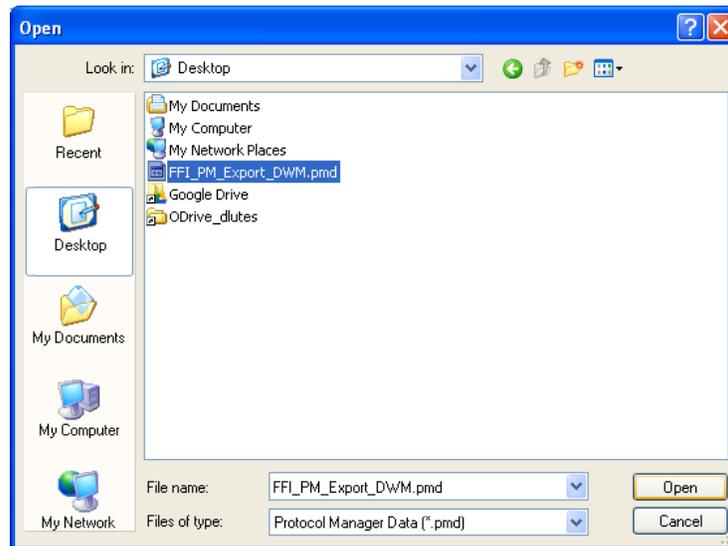
**13.5** Minimize **Protocol Manager**, launch **FFI** if **FFI-Lite** and log in to the *FFI\_Training* database you created in the **Database Setup** exercises or another FFI database you want to test the protocol in.

**13.6** In **Project Management**, select **Utilities > Import Protocols**. Click **OK** on the **DataCapture** window that appears.



## Protocol Manager Exercises

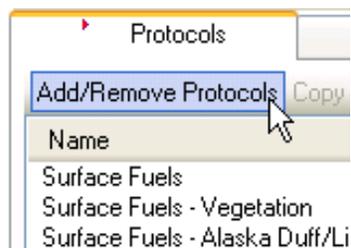
- 13.7** Navigate to the new .pmd file and click **Open**. Click **Yes** on the **Are You Sure?** Window that appears. There is no progress bar displayed during the protocol import so it doesn't look like anything is happening...but it is...wait a couple minutes before panicking.



- 13.8** Click **OK** on the window confirming the import is complete.

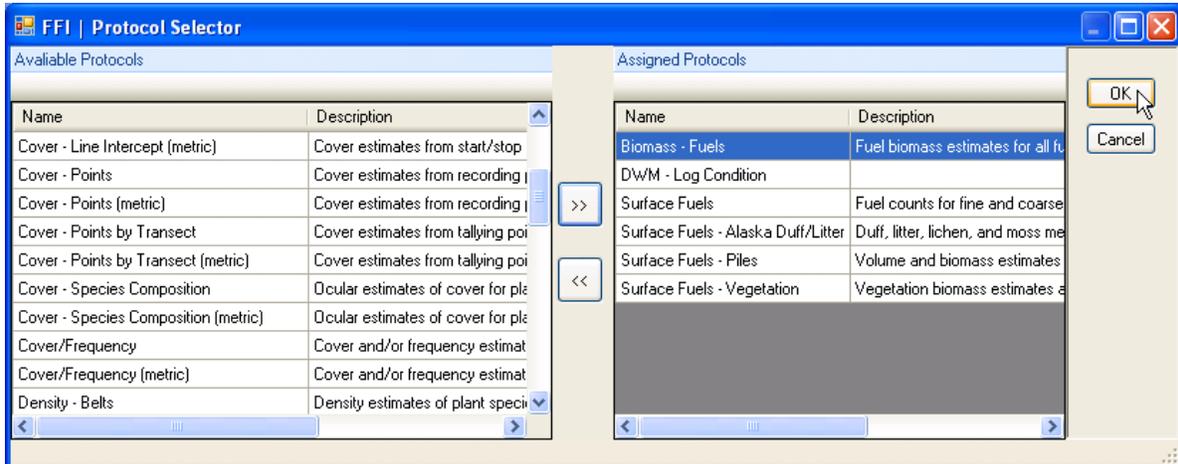
### Exercise 14: Assign the protocol to an FFI sample event

- 14.1** In **Project Management** click to the sample event for plot\_001, click **Add/Remove Protocols**.

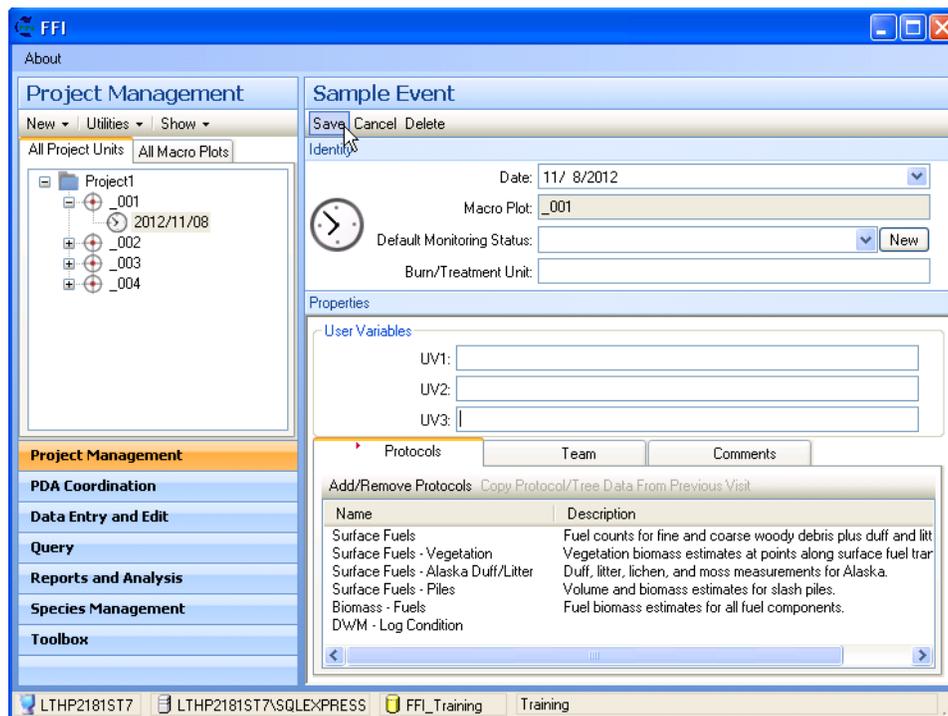


## Protocol Manager Exercises

- 14.2 Find the *DWM – Log Condition* protocol in the left list and move it to the right list by clicking the arrow in the middle. Click **OK**.



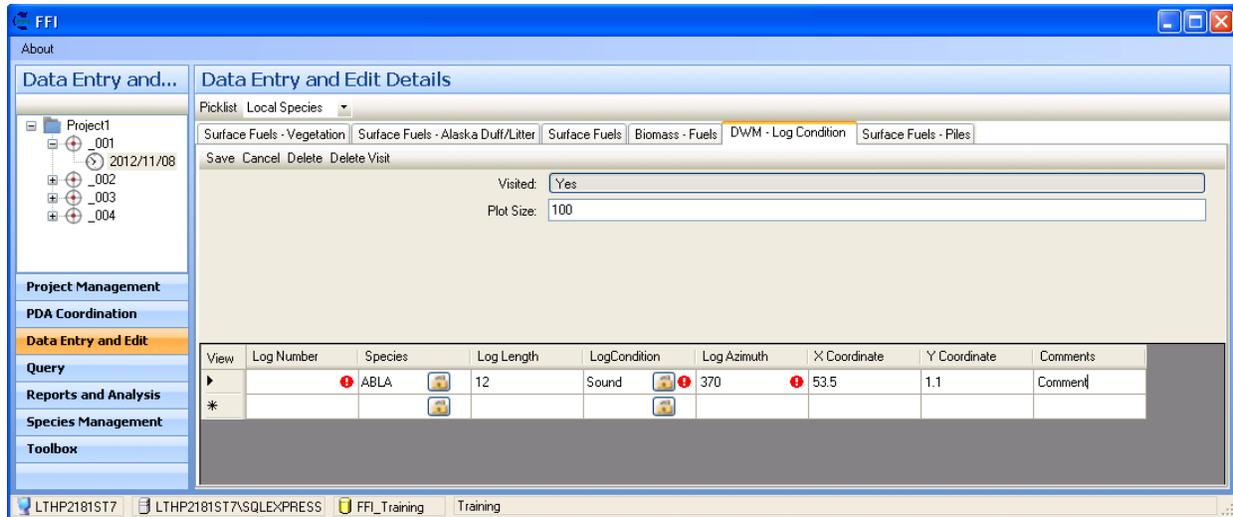
- 14.3 The Sample Event pane will now show your new protocol. Click **Save**.



## Protocol Manager Exercises

### Exercise 15: Test the new protocol in FFI Data Entry

- 15.1** In **Data Entry & Edit**, select the macro plot and sample event for the new protocol. See that all the special settings work as expected: The **Plot Size** field should default to **100**; **Log Number** is a required field; **Log Condition** is limit to list; the range of the **Azimuth** field is 0 to 359, etc.

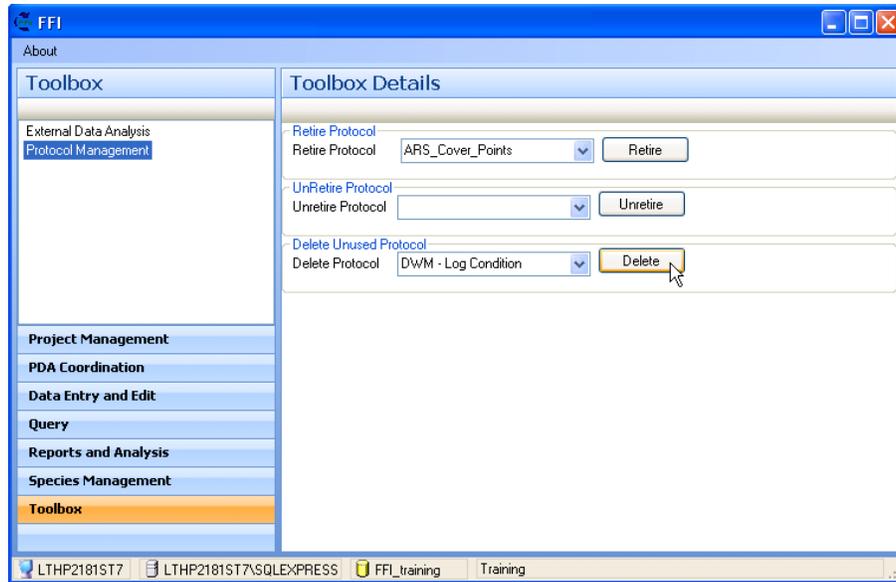


- 15.2** If changes are needed then you would go back into **Protocol Manager**, duplicate the method and protocol, make changes and then export from **Protocol Manager** and import into **FFI**.

## Protocol Manager Exercises

### Exercise 16: Delete unused protocols

- 16.1** Delete any unused protocols from your database using the FFI **Toolbox**. Click the **Toolbox** navigation bar, select **Protocol Management** in the left pane and select the protocol you want to delete in the **Delete Unused Protocols** box. Click the **Delete** button and the protocol will be removed from the dropdown list.



*NOTE: If the protocol is assigned to any sample events and the Visited field is set to Yes you cannot delete the protocol. The warning will indicate which sample events the protocol is still being used with.*

*REMEMBER: Deleting the protocol deletes all the data associated with it!*

## Protocol Manager Exercises

### Appendix A

#### Value Definition field descriptions

Field Name	Description	Notes
Units	Units the attribute is measured in	Must select an option from the dropdown list. FFI using this information when making calculations in Query Builder and in Reports and Analysis.
Data Type	What type of data is it	Must select an option from the dropdown list. <i>NOTE: See <b>Data Type</b> descriptions in the table below.</i>
Precision	If <b>Data Type</b> = <i>Decimal Number</i> , how many digits to allow to the right of the decimal point	Not used for other data types
Read Only (Only available on <b>Sample Attribute</b> tab)	Set to <i>False</i>	This field is no longer used in FFI
Roll Down (Only available on <b>Method Attribute</b> tab)	Copies the value in the same field in the previous record into the current record	
Limit Codes to List	If you have a list of codes/items the user must pick from set to <i>True</i> , otherwise set to <i>False</i> . If set to <i>False</i> the user can select an item from the list or enter their own value	Codes are entered on the <b>Codes</b> tab.
Default Value	Set as the default when the protocol opens in FFI	
Minimum Value	When the <b>Data Type</b> is a number field this is the minimum value that can be entered.	FFI will display an error in Data Entry and Edit if a lower value is entered.
Maximum Value	When the <b>Data Type</b> is a number field this is the maximum value that can be entered.	FFI will display an error in Data Entry and Edit if a higher value is entered.
Value Length	When <b>Data Type</b> is <i>Text</i> or <i>Long Text</i> , this value is the maximum number of	FFI will display an error in Data Entry and Edit if a longer text string is

## Protocol Manager Exercises

	characters that can be entered. When <b>Data Type</b> is anything else leave this set to <i>0</i> .	entered. When Value Length is set to <i>0</i> the field length is not limited.
Allow Null	If this is set to <i>False</i> then it is a required field. If set to <i>True</i> it is an optional field.	FFI will display an error in Data Entry and Edit if this field is set to <i>False</i> but no data is entered.
Visible	Set to <i>True</i>	FFI no longer uses this field because you can turn fields on and off in Data Entry and Edit.
Data Level	Set to <i>Not Defined</i>	This field is not currently used in FFI.

### Appendix B

#### Data Type field descriptions

Data Type	Description
Yes/No Field	The field will have a dropdown with options for only <i>Yes</i> or <i>No</i> .
Date Time Field	You can't enter time in a field of this type so it should really be called just a Date field. Date entered must be in format: MM/DD/YYYY and fields of this type will have a calendar that pops up for setting the date.
Decimal Number	Decimal number with up to 16 places to the right of the decimal point.
Global Unique identifier	26-character value. This data type will probably never be used in your custom protocol but may be used in some protocols that require custom programming.
An index of numbers (Only available on <b>Sample Attribute</b> tab)	By default this data type is always used in the <i>Index</i> row of the Method Attributes (but it is not visible) and allows you to resort data back into the order it was initially entered. There is no reason to use this data type in a Sample Attribute.
Long Integer	Numbers that do not have decimal points.
Long Text Field	Text values with up to about 30,000 characters.
A Species Lookup Column	This special field links the species code (from the local species list) to the Global Unique Identifier used to store that species in the database. If using this data type the Limit Codes to List option must be set to <i>True</i>
Text Field	Text values up to about 250 characters in length.