



**PROTECTING  
COMMUNITIES  
& ENVIRONMENTS**  
National Interagency Fuels Coordination Group  
[www.nifc.gov/fuels](http://www.nifc.gov/fuels)

# Protocol Manager

Ecological  
Monitoring  
Utilities

[frames.nbii.gov/ffi](http://frames.nbii.gov/ffi)



**SYSTEMS FOR  
ENVIRONMENTAL  
MANAGEMENT**  
P.O. Box 8868  
Missoula, MT 59807



**SPATIAL  
DYNAMICS**  
910 Main St. Suite 342  
Boise, ID 83702

## *User's Guide*

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# Welcome to Protocol Manager

Protocol Manager, developed as a cooperative venture between the National Park Service and the Bureau of Reclamation, is a dynamic data dictionary that tracks the data structure, scientific basis, and metadata contained in a monitoring database. As a stand-alone database management tool, Protocol Manager streamlines management of protocols and field methods for data collection. This tool allows you to build protocols and methods within a flexible organizational structure and to add new attributes for a specific method.

Using Protocol Manager within an organization can ensure that consistent methodologies and sampling protocols are applied across a project, which enhances the quality and consistency of the collected data over time. Protocol Manager also includes the ability to add technical references to document your protocols and methods.

Protocol Manager is an independent component of the FFI Ecological Monitoring Utilities, a set of monitoring tools that is the integration of FEAT and FIREMON, two respected, science-based programs used for fire effects monitoring on public lands. Methods and protocols developed in Protocol Manager can be imported directly into FFI.

## Features

- o Uses a Database Administration module to create and store protocol databases.
- o Exports easily to FFI and other external databases and applications.
- o Offers a comprehensive reporting function.
- o Provides automated metadata support.

## Getting started

To get started with Protocol Manager, proceed to:

- o [About the User's Guide](#)
- o [Installing Protocol Manager](#)
- o [Reviewing Protocol Manager basics](#)
- o [Using Protocol Manager](#)

## Links

- o On-line Protocol Manager information at [FRAMES](#)
- o On-line users community at [Google Groups](#)

There are three separate User's Guides available at [FRAMES](#) and on-line:

- o [FFI \(main application\)](#)
- o [Protocol Manager](#)
- o [GIS Module](#)

## About the *User's Guide*

The *Protocol Manager User's Guide* covers the following topics:

- o [Installing Protocol Manager.](#)
- o [Creating, importing, and exporting databases.](#)
- o [Working with methods](#) and [protocols.](#)
- o [Adding and editing attributes.](#)
- o [Assigning methods to protocols.](#)
- o [Assigning protocols to projects.](#)
- o [Promoting methods and protocols](#) from development to production.
- o [Generating reports.](#)

There are three separate User's Guides :

- o [FFI \(main application\)](#)
- o [Protocol Manager](#)
- o [GIS Module](#)

Each *User's Guide* is available in three formats: on-line, as desktop help, and in PDF format. It will be updated as FFI is revised, and updates will be announced to the user community via the on-line FFI information page at [frames.nbj.gov/ffi](http://frames.nbj.gov/ffi).

*NOTE: The Protocol Manager reports function was added late in the development stage. For this reason, most screen shots used in the documentation do not show the **Reports** menu item in the Protocol Manager toolbar.*

## Conventions

Text conventions used in this manual are explained below.

| CONVENTION                                     | DESCRIPTION                        | EXAMPLE  |
|--|------------------------------------|--|
| <b>Bold</b>                                    | Instruction<br>Name                | Click <b>Next</b> .<br>The <b>Database Select</b> window opens.<br>Click the <b>New Program</b> icon.<br>Select <b>Import</b> in the <b>Database</b> pull-down menu. |
| <i>Italic</i>                                  | Value; option in a menu or listing | Select the <i>Tree Composition</i> protocol in the displayed listing.  |
| <i>NOTE</i>                                    | Note                               | Notes provide additional information pertinent to a topic.   |
| <i>CAUTION</i>                                 | Caution                            | Cautions provide warnings.   |
| <a href="#"><u>Blue underlined italics</u></a> | Internal links; Web links          | See <a href="#">Using organizations</a> for more information.  |

## *User's Guide* roadmap

Follow the links to reach the components of the *Protocol Manager User's Guide*:

- o [Installation](#)
- o [Protocol Manager basics](#)
- o [Using Protocol Manager](#)
- o [Building reports](#)

## Getting additional help

If you need help beyond the information provided in this *User's Guide*, visit the on-line FFI information page at [frames.nbi.gov/ffi](http://frames.nbi.gov/ffi). This FRAMES page provides:

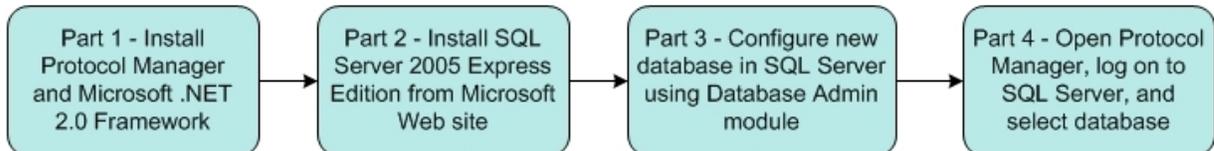
- o Information about the FFI ecological monitoring utilities.
- o Links to documentation and training information.
- o Links to other FRAMES pages.
- o Calendar of upcoming events.
- o Contact information for members of the FFI team.

Also visit the on-line users community at [Google Groups](#)

# Installing Protocol Manager

The flowchart below shows the four key processes involved in installing Protocol Manager and creating a database. Each process is described in a separate part.

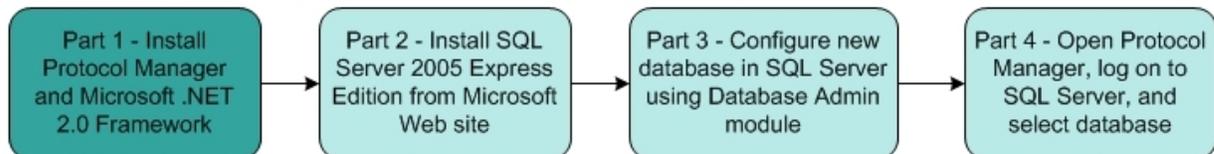
*NOTE: You must have Windows administrator privileges to install Protocol Manager on your computer. A regular Windows user can use Protocol Manager after a Windows administrator has installed it.*



*NOTE: The full installation process requires approximately one hour to complete.*

- o [Part 1 - Installing FFI and .NET](#)
- o [Part 2 - Installing SQL Server 2005 Express](#)
- o [Part 3 - Configuring a database using the Database Administration module](#)
- o [Part 4 - Opening FFI and logging on](#)

## Part 1 – Installing Protocol Manager and Microsoft .NET



The Microsoft® .NET Framework 2.0 is included in the FFI installation package. To install Protocol Manager and .NET, follow these steps:

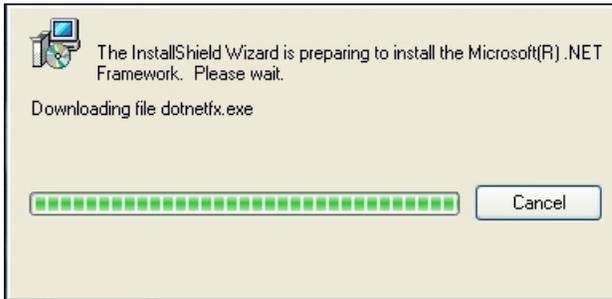
1. Uninstall any earlier versions of Protocol Manager using the Windows **Add/Remove Programs** function. (Do not uninstall SQL Server.)
2. If you have not already done so, download the FFI installation package from the Software and Manuals page at [FRAMES](#).
3. Double-click the **FFI Install.exe** icon on your desktop.



4. The **InstallShield Wizard** window opens and prepares to install. Click **Next**.

*NOTE: If the .NET 2.0 Framework is already installed on your computer, you will not see Step 5. Proceed to Step 6.*

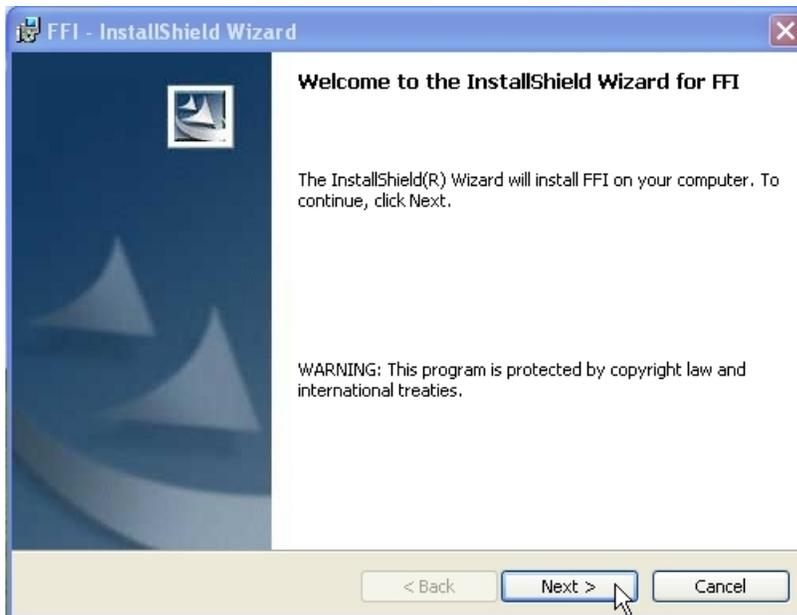
5. If the .NET 2.0 Framework is not installed on your computer, the InstallShield Wizard will prepare to install it.



- a. Wait while InstallShield downloads and installs .NET 2.0 Framework. This takes a few minutes.
- b. A dotnetfxModule Security Warning will ask "Do you want to run this software?". Click **Run**.

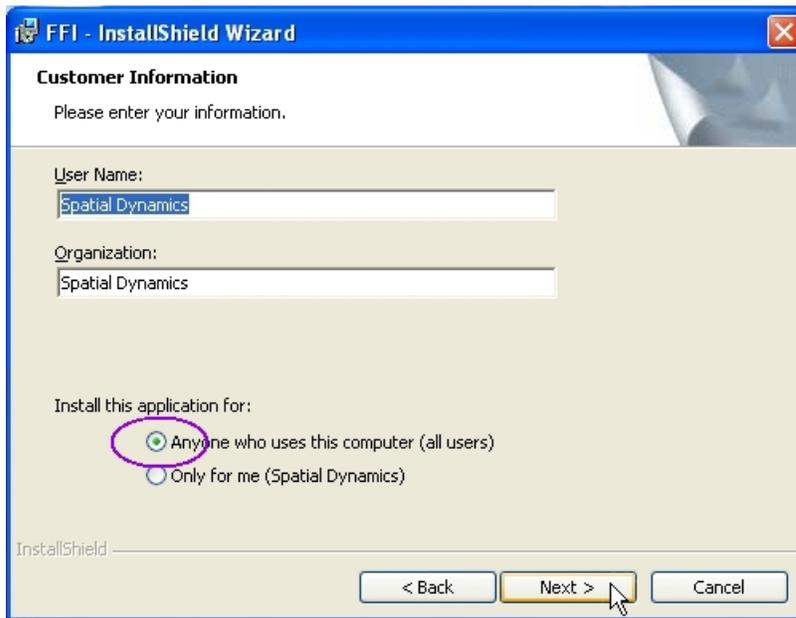


- c. Wait while the InstallShield Wizard configures .NET 2.0 Framework. Configuration takes several minutes.
- d. You will be returned to the FFI InstallShield Wizard window. Click **Next**.



6. Accept the license agreement terms and click **Next**.

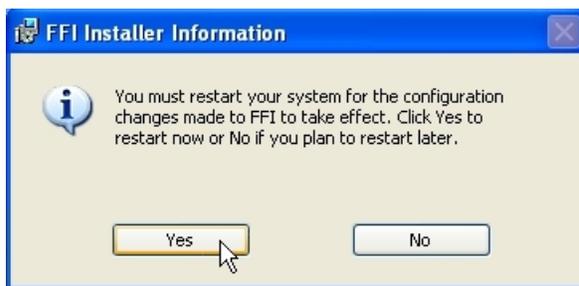
7. In the **Customer Information** window, enter your *User Name* and *Organization Name*. Select the *Anyone who uses this computer (all users)* option and click **Next**.



8. In the **Ready to Install** window, click **Install**. Protocol Manager will be installed. Icons for FFI, FFI Database Administration, and Protocol Manager will appear on your desktop.

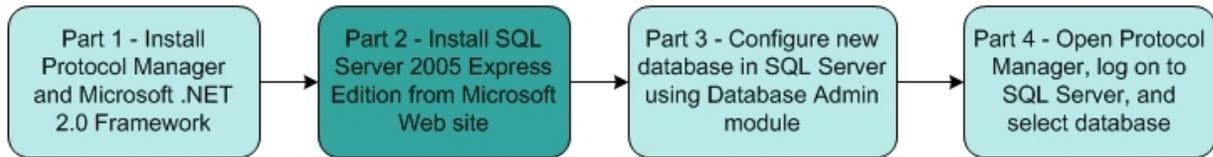


9. When installation is complete, click **Finish**.
10. If you are asked to restart your computer, click **Yes** to restart before continuing.



11. After your computer has restarted, proceed to Part 2, [Installing SQL Server 2005 Express Edition](#).

## Part 2 – Installing SQL Server 2005 Express Edition



To install SQL Server 2005 Express Edition on your computer:

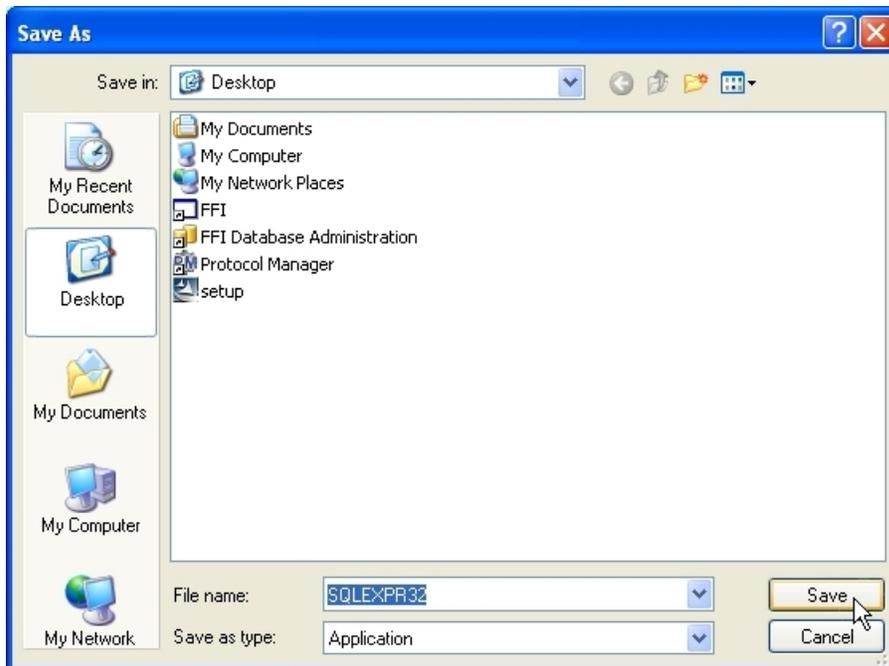
1. Navigate to <http://msdn.microsoft.com/vstudio/express/sql/download/>.

*NOTE: These installation instructions are written for Microsoft Internet Explorer.*

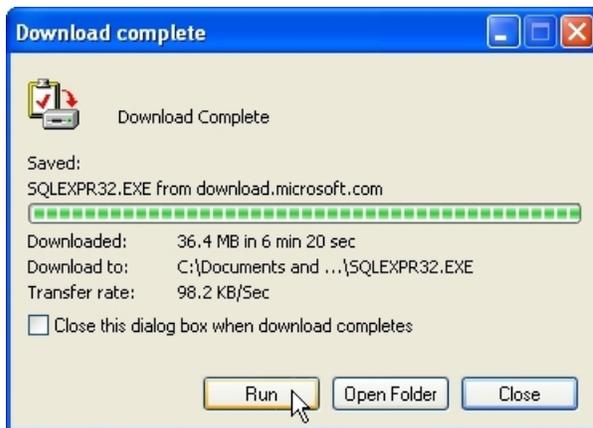
2. Click **Download** to download **Microsoft SQL Server 2005 Express Edition** to your computer, as indicated in the *left-hand* box below.

|  |  |
|--|--|
| <h3>SQL Server 2005 Express Edition SP2</h3> <p>Not sure what you need from your Microsoft SQL Server download and want to get started quickly? Download the SQL Server Express database engine and Management Studio Express.</p> <p><b>Install Microsoft SQL Server 2005 Express Edition (more...)</b></p> <p><a href="#">Download</a> * (36.5 MB)</p> <p><b>SQL Server Management Studio Express (more...)</b></p> <p><a href="#">Download</a> ** (43.1 MB)</p> | <h3>SQL Server 2005 Express Edition with Advanced Services SP2</h3> <p>Do you want SQL Server Express with all the additional development tools? Download SQL Server Express with Advanced Services and the SQL Server Express Toolkit.</p> <p><b>Install Microsoft SQL Server 2005 Express Edition with Advanced Services (more...)</b></p> <p><a href="#">Download</a> (234 MB)</p> <p><b>Microsoft SQL Server 2005 Express Edition Toolkit (more...)</b></p> <p><a href="#">Download</a> (223.9 MB)</p> |
|--|--|

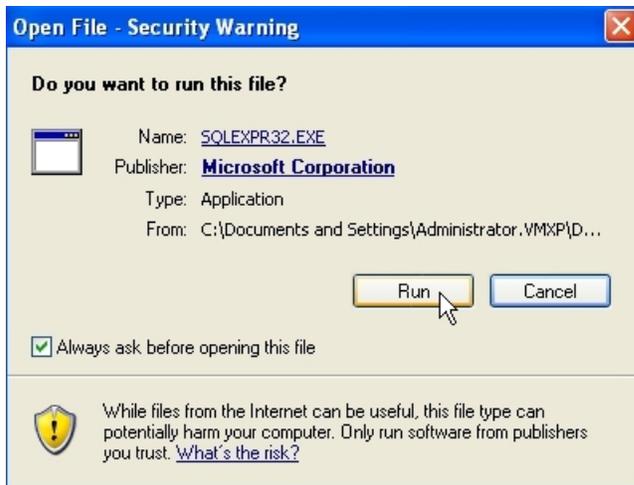
3. Save the file to your desktop.



4. When the download is complete, click **Run** in the message window.



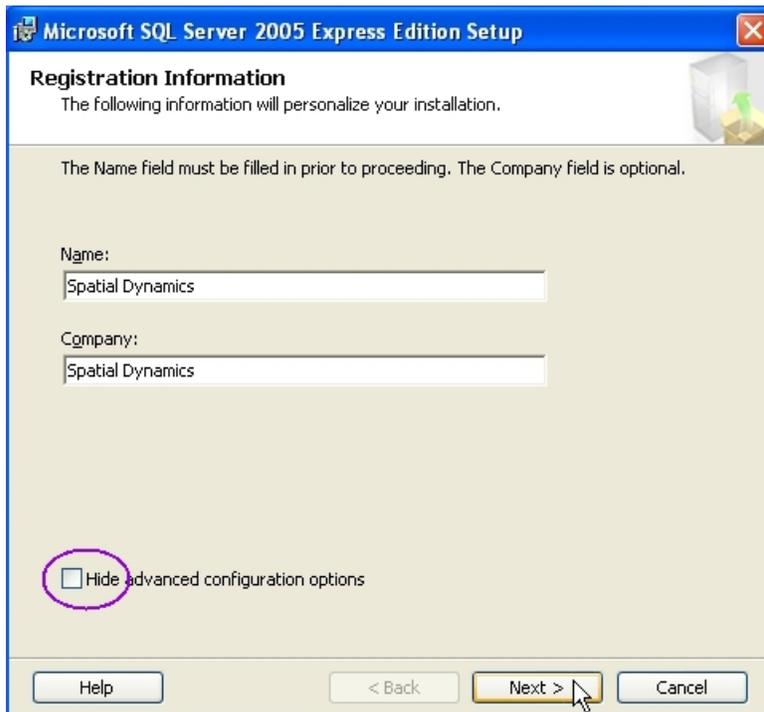
5. In the security warning window, click **Run**. The installer extracts files needed for installation. This can take a few minutes.



6. Accept the licensing conditions and click **Next**.
7. In the **Installing Prerequisites** window, click **Install**. Installation takes a few moments.
8. Click **Next** after the required components are successfully installed.
9. In the **System Configuration Check** window, click **Next**.
10. The **Microsoft SQL Server Installation Wizard** opens. Click **Next**.
11. Another **System Configuration Check** window opens. Click **Next**.

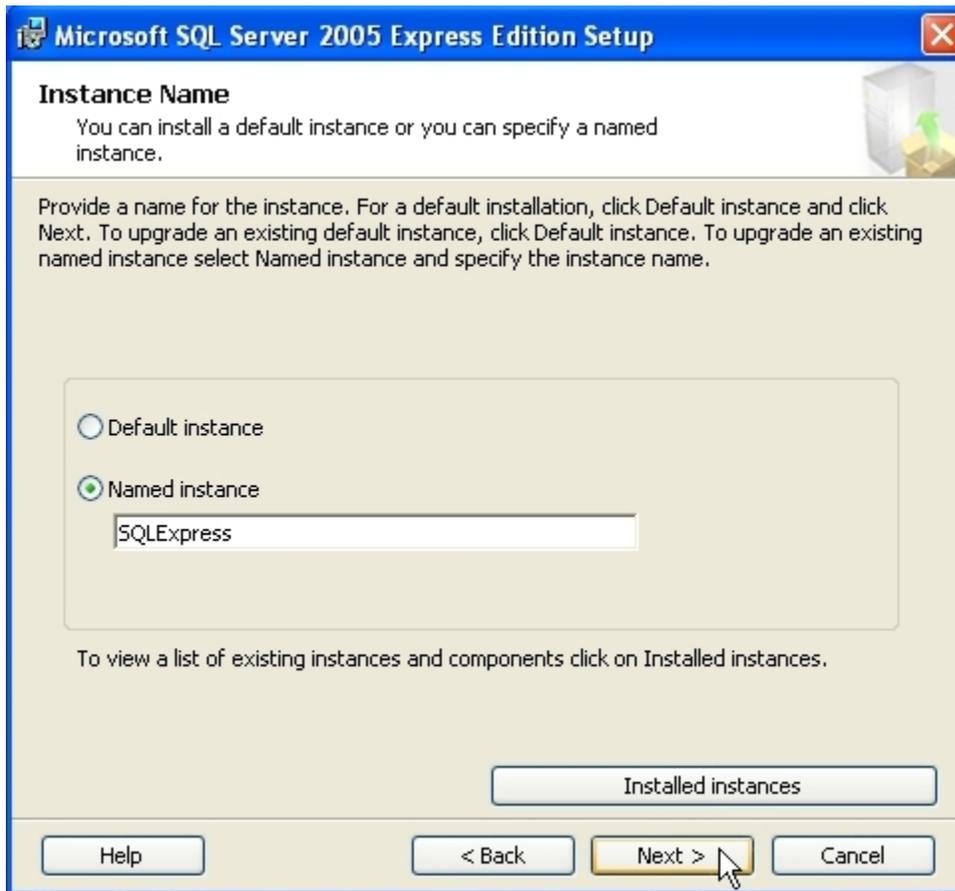
*NOTE: If the System Configuration fails, contact your IT support staff.*

12. In the **Registration Information** window, complete the **Name** and **Company** fields. *Uncheck* the *Hide advanced configuration options* box, and click **Next**.



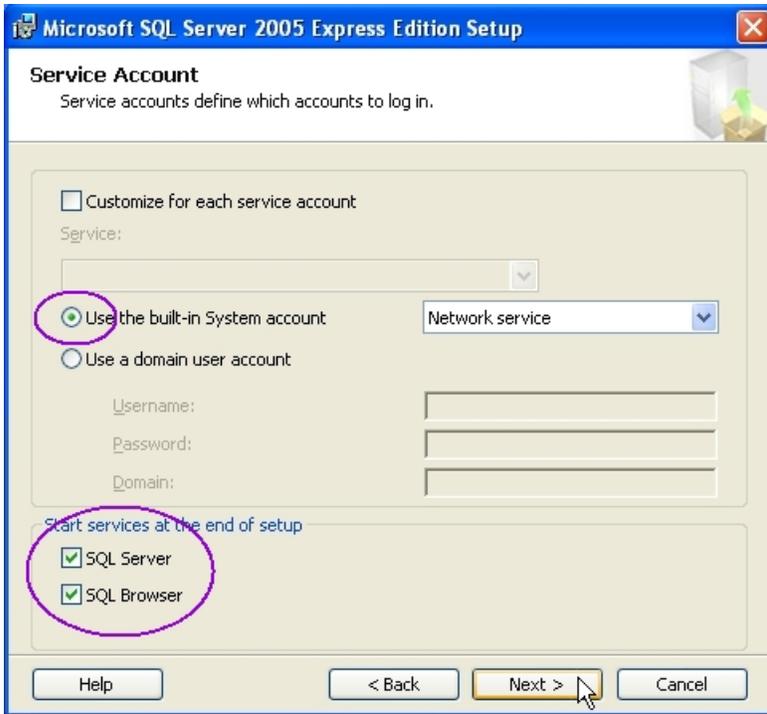
13. In the **Feature Selection** window, click **Next**. Do not change any options.

14. In the **Instance Name** window, click **Next** to create your SQL Server instance. Do not change any options.



*NOTE: Click the **Installed Instances** button to see a listing of any instances that are already installed. If you already have SQL instances installed on your computer, you will need to enter a unique name for this new instance of SQL. Remember the new name; you will need it later in the installation. Otherwise, keep the default name as **SQLExpress**.*

15. In the **Service Account** window, leave the *Use the built-in System account* option checked, as shown. Select *SQL Server* and *SQL Browser*, and click **Next**.



16. In the **Authentication Mode** window, select the *Mixed Mode* option. Enter and confirm a new SQL password, and then click **Next**.

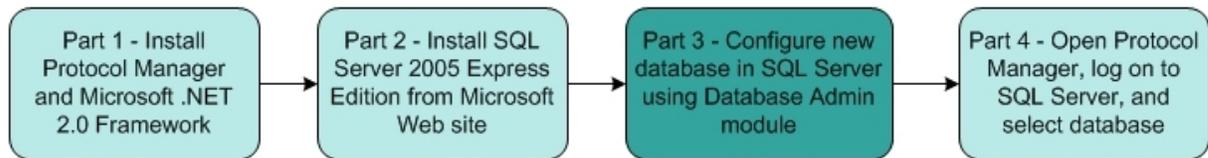


*NOTE: Select a password that you can easily remember, since it cannot be retrieved if it is forgotten. See [Password guidelines](#) for help in selecting a password. This is your **sa** user (SQL) password, and you will use it each time you log on to Protocol Manager. Be*

sure to write your **sa** user password down in a safe place. Your **sa** user (SQL) password is different than your Windows password.

17. In the **Collation Settings** window, click **Next**. Do not change any options.
18. In the **Configuration Options** window, click **Next**. Do not change any options.
19. In the **Error and Usage Report Settings** window, do not enter anything, and click **Next**.
20. In the **Ready to Install** window, click **Install**. Installation and setup can take several minutes.
21. In the **Setup Progress** window, click **Next**.
22. In the **Completing Setup** window, click **Finish**.
23. Proceed to Part 3, [Configuring a database in SQL Server 2005](#).

## Part 3 – Configuring a database in SQL Server 2005

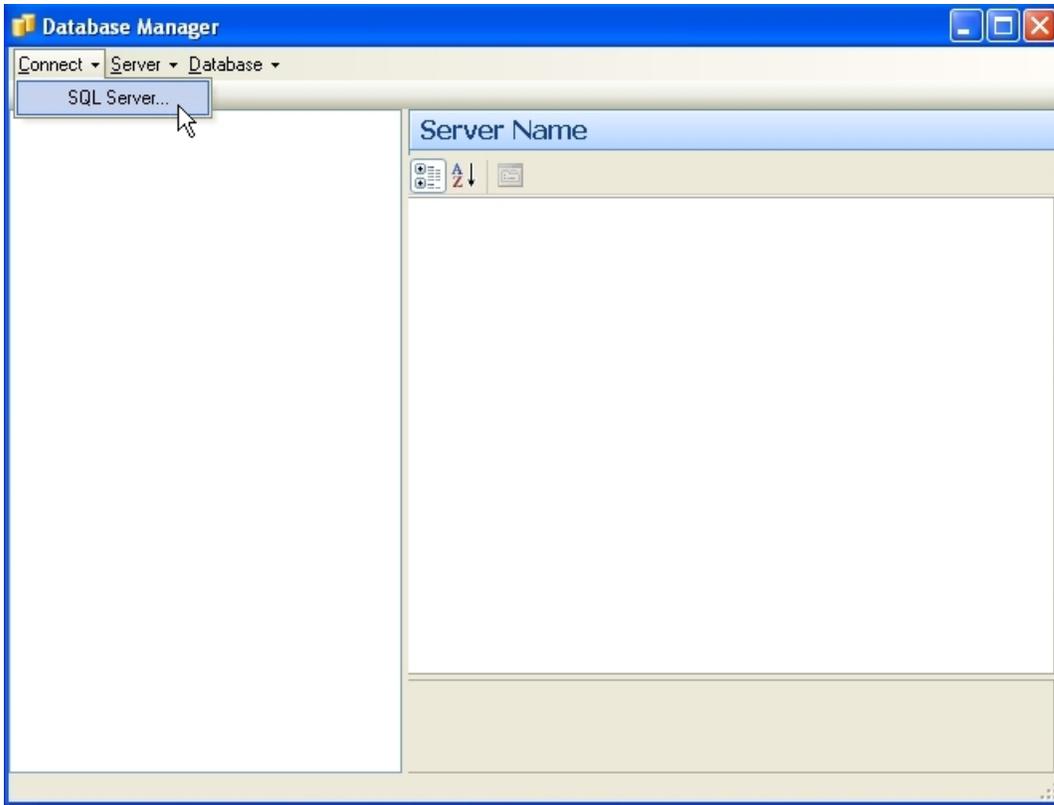


Protocol Manager uses a SQL Server 2005 database to store protocols and methods. If a database is not already available for your project, you must create one before you can begin to work with Protocol Manager. Use the FFI Database Manager module to create a new database.

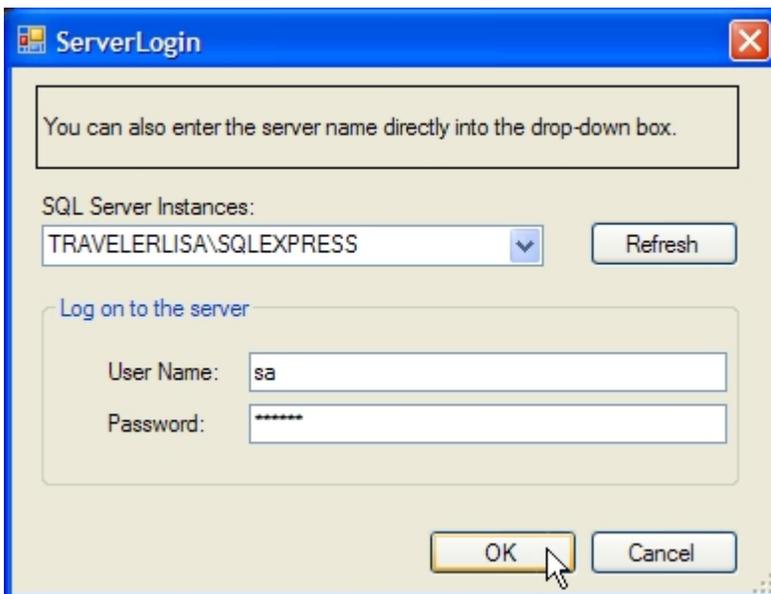
1. Double-click the **FFI Database Administration** icon on your desktop. The **Database Manager** window opens.



2. In the **Connect** pull-down menu, select **SQL Server**.

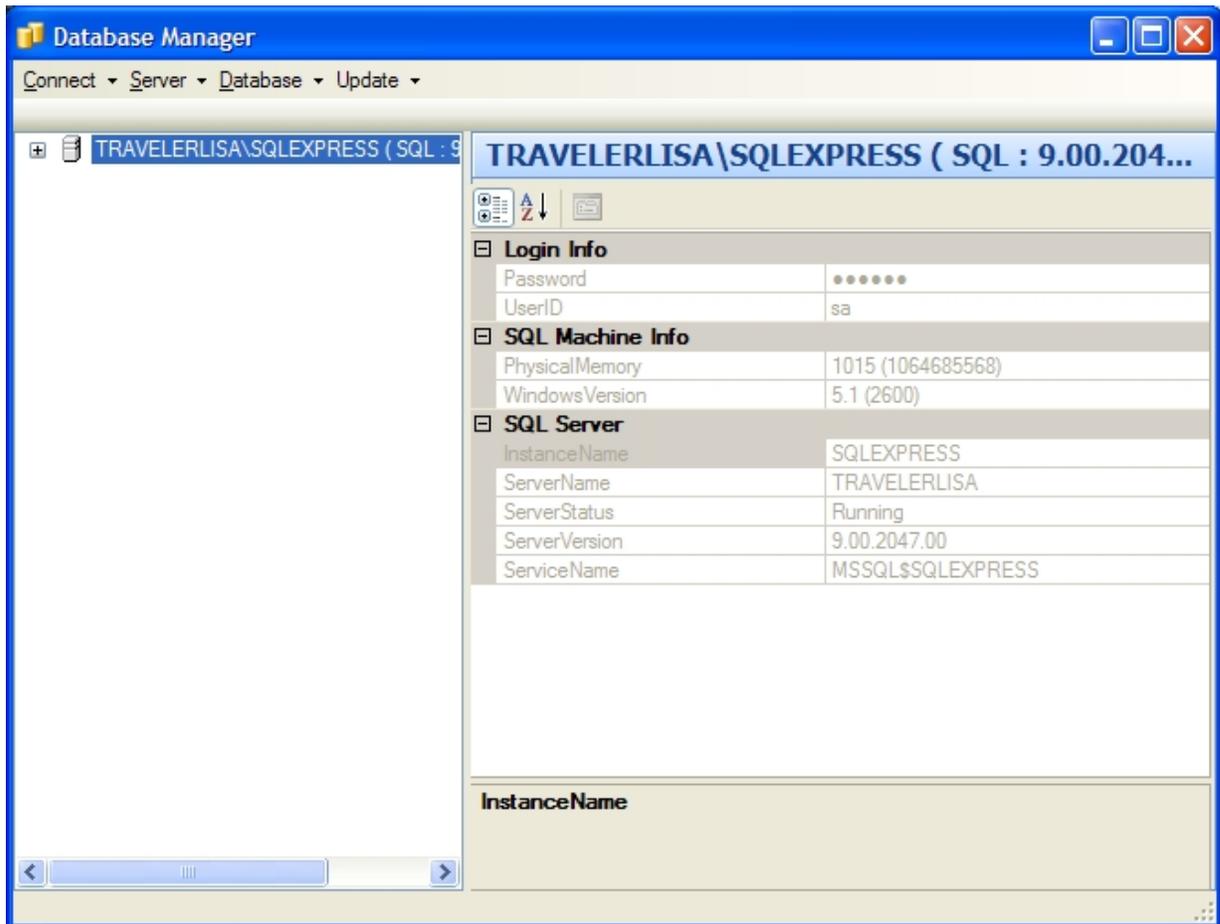


3. In the pull-down menu in the **Server Login** window, select the SQL server instance that you created in Part 2, step 16. Enter the username **sa** and the **sa** user password that you created (your SQL password). Click **OK**.

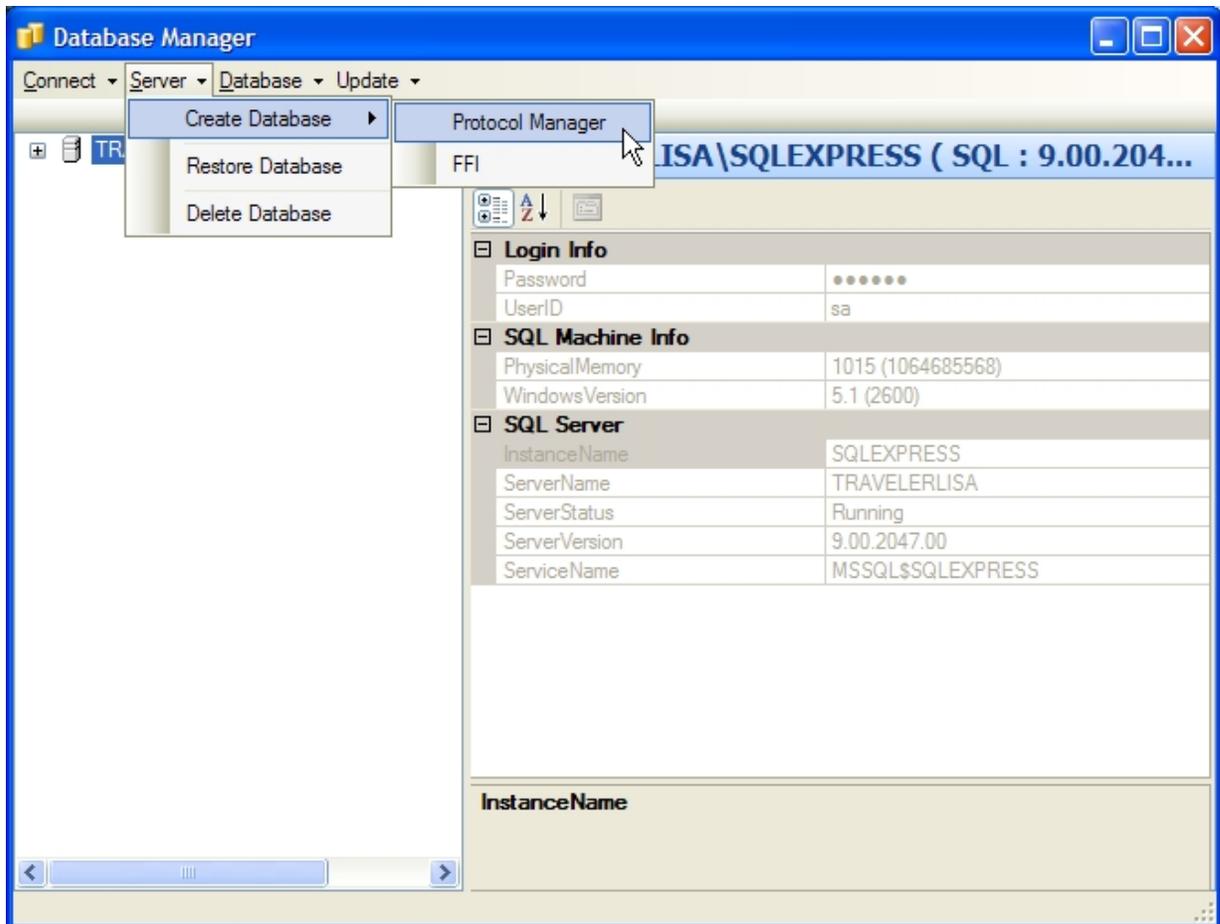


*NOTE: Unless you selected another name for the server in Part 2, step 14, the server instance is called SQLEXPRESS.*

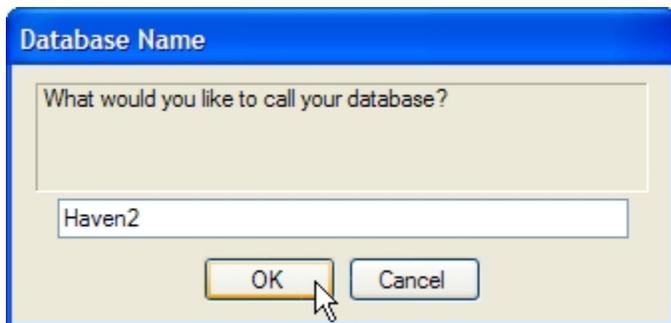
4. In the tree view of the **Database Manager** window, highlight the name of the SQL server instance.



5. In the **Server** pull-down menu, select **Create Database**. Select **Protocol Manager**.

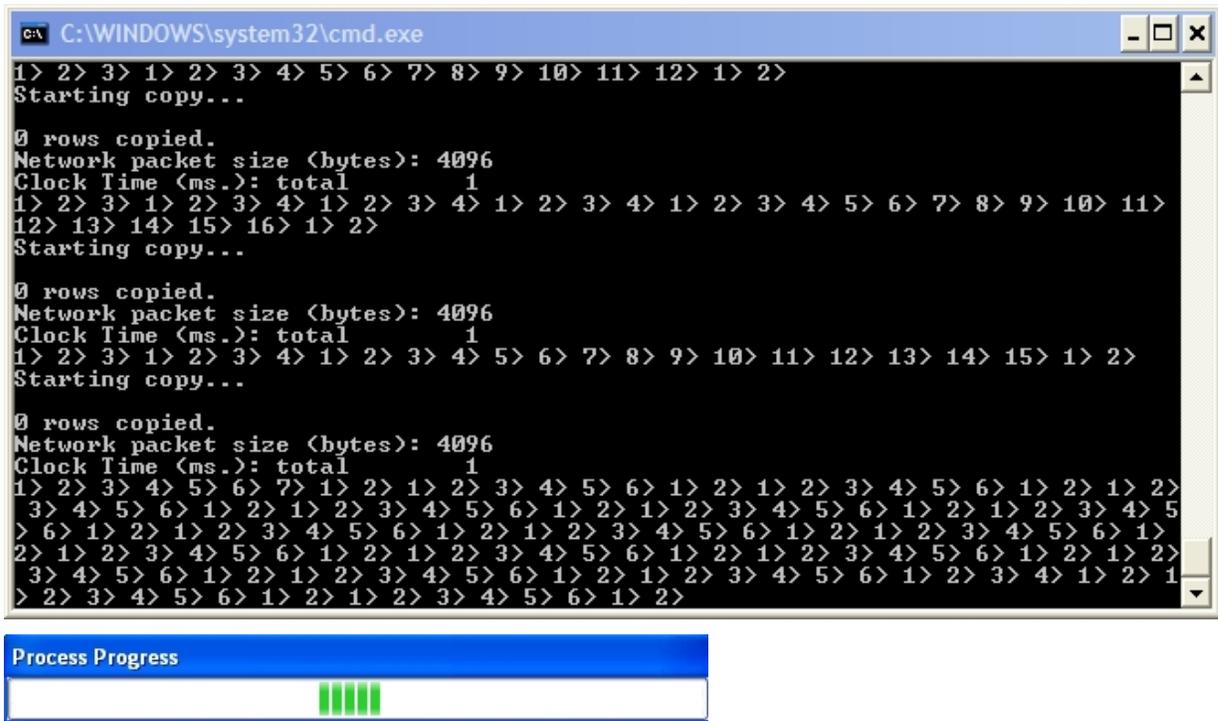


6. Enter a unique name, such as a park or forest name, for the new Protocol Manager database and click **OK**.

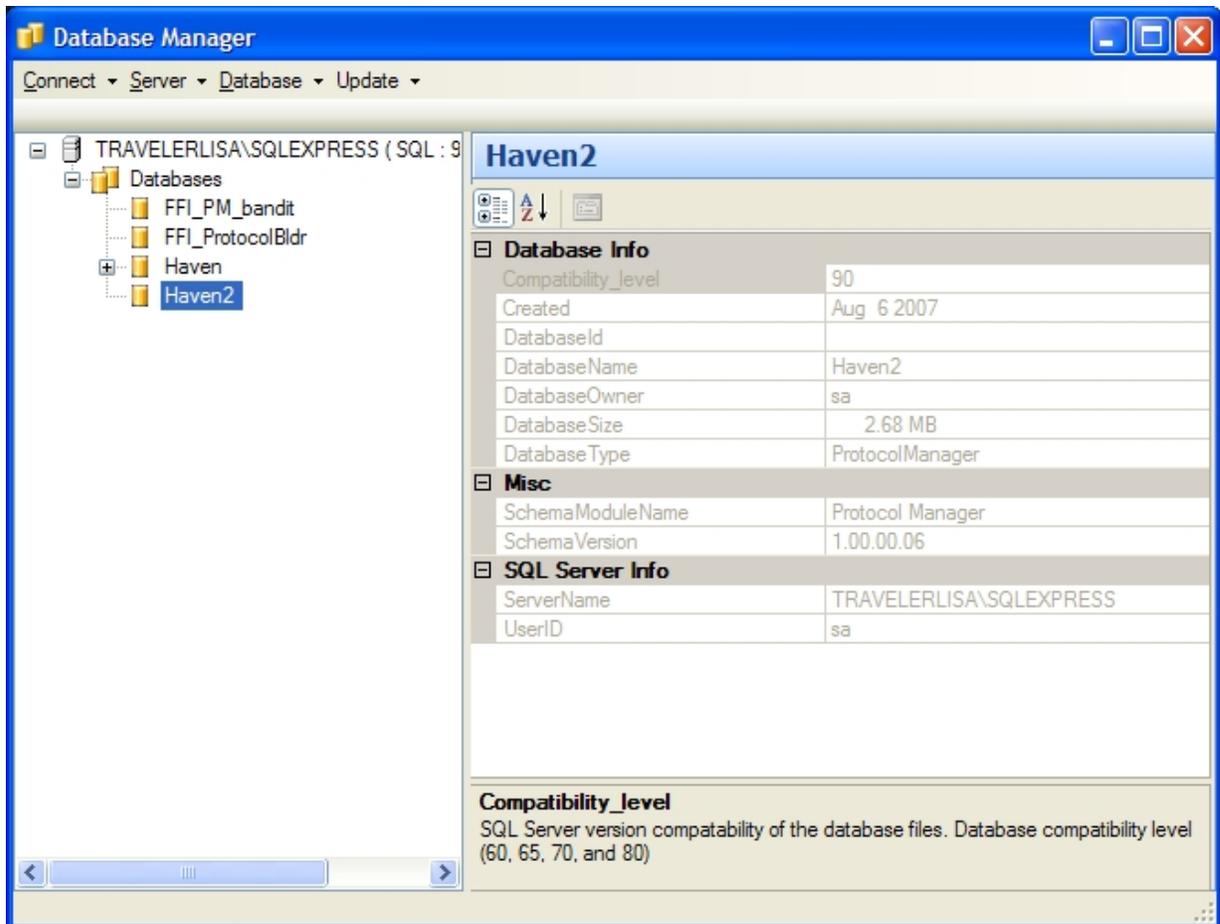


*NOTE: If a database with the name that you selected already exists, Protocol Manager will prompt you to enter a different name or to overwrite the existing database. Database names cannot contain spaces and must begin with an alphabetic character.*

7. A DOS window and a progress bar open, as shown below. Wait while the database is created, which could take several minutes, depending on your computer.

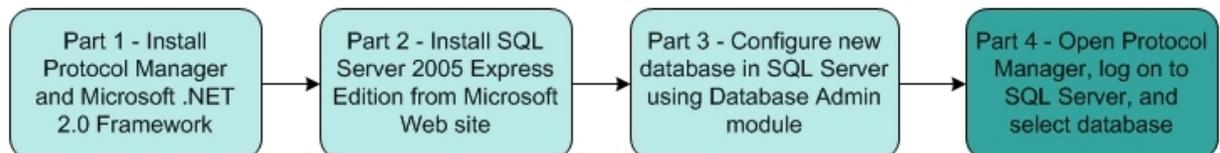


8. In the tree view of the **Database Manager** window, open the **Databases** folder. The new database will be listed.



9. Close the **Database Manager** window.
10. Proceed to Part 4, [Opening Protocol Manager and logging on](#).

## Part 4 – Opening Protocol Manager and logging on

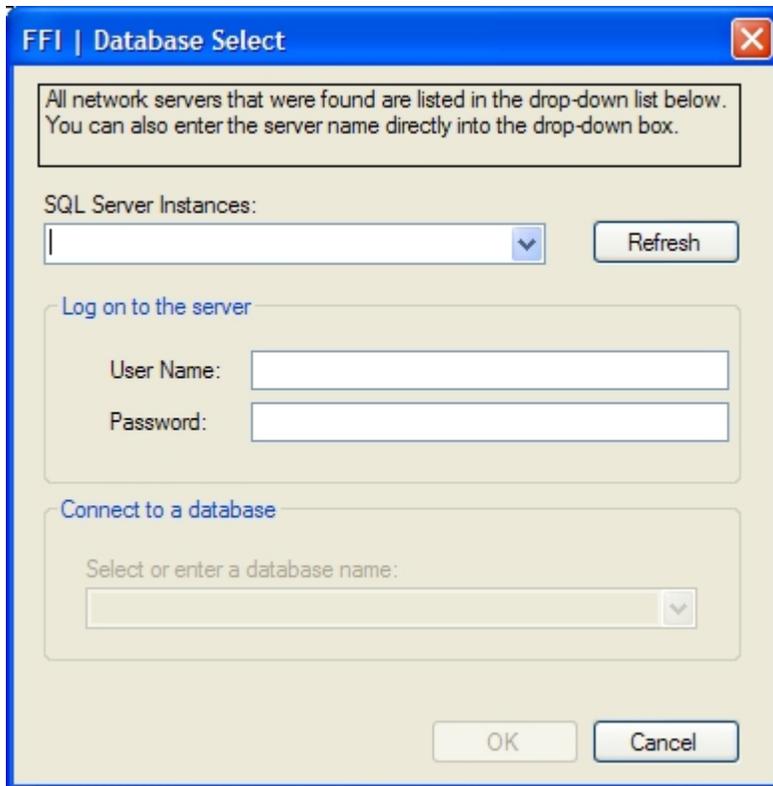


To log on and begin using Protocol Manager:

1. Double-click the **Protocol Manager** icon on your desktop, or launch Protocol Manager from your **Start** menu (Start/Programs/FFI/Protocol Manager).



2. The **Database Select** window opens.



*NOTE: The Protocol Manager splash screen may be visible for a moment or so while the program loads.*

3. In the **Database Select** window, select your SQL server instance using the pull-down menu. Enter the username **sa** and the **sa** user (SQL) password that you established in Part 2.

*NOTE: The server name is in the format **machinename\SQLEXPRESS**.*



4. In the **Connect to a database** pull-down list, select the database that you created, and click **OK**.

*NOTE: If the **Connect to a database** menu is grayed out and you cannot select a database, you have entered an incorrect SQL password. Log on to the server again with the correct password. If necessary, repeat the [Configuring a database procedure \(Part 3\)](#).*

5. Protocol Manager will open and the new database will be connected.
6. Proceed to [Using Protocol Manager](#).

## Password guidelines

For security, new Protocol Manager passwords should meet the following guidelines:

- o The password does not contain all or part of the username.
- o The password is at least eight characters long.
- o The password contains characters from three of the following four categories:
  - Uppercase letters A through Z.
  - Lowercase letters A through Z.
  - Numerals 0 through 9.
  - Non-alphanumeric characters such as !, \$, #, or %.

# Protocol Manager basics

This section of the *User's Guide* presents key definitions and concepts:

- o [Term definitions](#)
- o [Data field definitions](#)
- o [Protocols and methods: development vs. production status](#)
- o [Navigating in Protocol Manager](#)

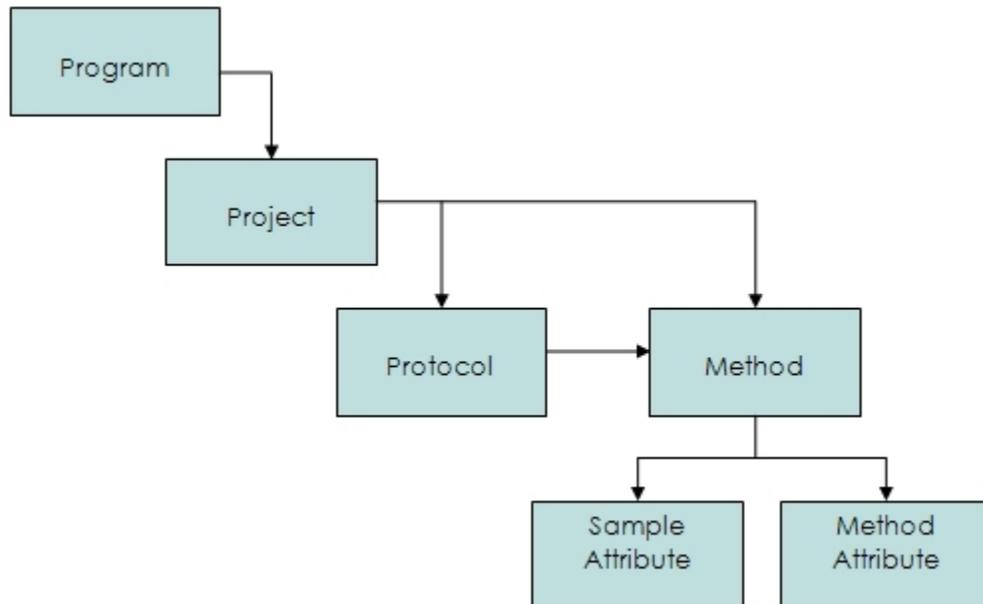
When you're ready, proceed to [Using Protocol Manager](#).

## Definitions

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

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

This hierarchy is shown in the graphic below.



*NOTE: See [Data field definitions](#) for additional information on these definitions.*

## Data field definitions

### Program builder

| FIELD NAME   | DEFINITION   |
|--------------|--|
| Program name | Name assigned to program   |
| Objective    | Overall program objective  |
| Description  | Description of key elements of program                                 |
| Contact      | Contact information for primary contact person associated with program |

### Project builder

| FIELD NAME   | DEFINITION   |
|--------------|--|
| Program      | Name of the program with which the project is associated               |
| Project name | Name assigned to project   |
| Objective    | Overall program objective  |
| Description  | Description of key elements of project                                 |
| Contact      | Contact information for primary contact person associated with project |

### Protocol builder

| FIELD NAME | DEFINITION |
|------------|------------|
|------------|------------|

|                 |  |
|-----------------|--|
| Protocol name   | Name assigned to protocol  |
| Description     | Description of key elements of protocol  |
| Contact         | Contact information for primary contact person associated with program                   |
| Version history | Automatically registered by Protocol Manager to track history of changes to the protocol |

## Method builder

| FIELD NAME      | DEFINITION   |
|-----------------|--|
| Method name     | Name assigned to method  |
| Unit system     | Unit system to be applied to the method  |
| Method shape    | Shape of the area to which the method is to be applied                                 |
| Single record   | Whether or not the method is composed of a single record for data collection           |
| Description     | Description of key elements of the method  |
| Organizations   | Type of data indicator or indicator group associated with the method                   |
| Version history | Automatically registered by Protocol Manager to track history of changes to the method |
| References      | References listed in the method - can be books, Web sites, or journals                 |

## Sample attribute builder

| FIELD NAME            | DEFINITION  |
|-----------------------|---|
| Value definition      |   |
| • Unit                | Unit in which the attribute is measured or recorded   |
| • Data type           | Type of data collected, or type of field necessary to house data  |
| • Precision           | Number of decimal places to which the data is measured  |
| • Read only           | Whether or not a user can modify the data   |
| • Limit codes to list | Whether or not the data in the field is limited to a list of specific values  |
| • Default value       | A value assigned as a default that will automatically populate a field unless the user specifies another value        |
| • Minimum value       | Minimum acceptable value  |
| • Maximum value       | Maximum acceptable value  |
| • Value length        | Number of characters that can be contained in the value field   |
| • Allow null          | Whether or not the user can leave the field blank   |
| • Visible             | Whether or not the user sees the data entry field, or if it is used for data management separate from data collection |
| • Data level          | Geographic extent to which the data is representative or to   |

|             |  |
|-------------|--|
|             | which the data can be extrapolated, e.g., reach, basin, watershed                          |
| Codes       | Abbreviations or codes used to represent a longer description or text, e.g., CHN = Chinook |
| Description | Description of sample attribute and process of data collection                             |

## Method attribute builder

| FIELD NAME            | DEFINITION  |
|-----------------------|---|
| Value definition      |   |
| • Unit                | Unit in which the attribute is measured or recorded   |
| • Data type           | Type of data collected, or type of field necessary to house data  |
| • Precision           | Number of decimal places to which the data is measured  |
| • Roll down           |   |
| • Limit codes to list | Whether or not the data in the field is limited to a list of specific values  |
| • Default value       | A value assigned as a default that will automatically populate a field unless the user specifies another value                |
| • Minimum value       | Minimum acceptable value  |
| • Maximum value       | Maximum acceptable value  |
| • Value length        | Number of characters that can be contained in the value field   |
| • Allow null          | Whether or not the user can leave the field blank   |
| • Visible             | Whether or not the user sees the data entry field, or if it is used for data management separate from data collection         |
| • Data level          | Geographic extent to which the data is representative or to which the data can be extrapolated, e.g., reach, basin, watershed |
| Codes                 | Abbreviations or codes used to represent a longer description or text, e.g., CHN = Chinook                                    |
| Description           | Description of sample attribute and process of data collection  |

## Development vs. production status

In Protocol Manager, protocols and methods are classified as either **Development** or **Production**.

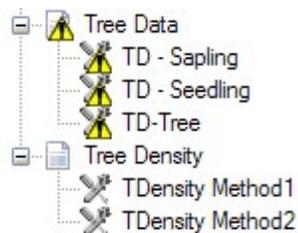
- o **Development** denotes a draft, or in-process, state. Protocols and methods in **Development** can be edited or deleted.
- o **Production** denotes a final, or approved, state. After promotion, protocols and methods cannot be edited or deleted.

*NOTE: If you collect field data using a Development method, the data will not be saved. Data is not saved as final until the method is promoted to Production.*

When Protocol Manager imports a database, its protocols and methods are classified as Development. Likewise, all protocols and methods that you create are classified as Development. As you finalize and approve your methods, you can promote them to Production. Once all methods contained within a protocol are promoted, you can promote the protocol to Production. After promotion, the protocol cannot be edited or deleted. The methods, their attributes, and any data associated with the methods will be locked.

*CAUTION: All methods within a protocol must be promoted before the protocol can be promoted.*

A yellow triangle is used to designate Development protocols and methods, as shown here. After promotion, the yellow triangle no longer appears. In this example, the protocol *Tree Density* and its methods *TDensity Method1* and *TDensity Method2* have been promoted to Production.



*NOTE: If you need to modify a protocol or method that has been promoted to Production, you can duplicate the protocol or method. The duplicates will then be in Development and can be edited.*

## Navigating in Protocol Manager

Most Protocol Manager functions provide three ways of navigating.

### Pull-down menus

Pull-down menus are available on the main Protocol Manager toolbar. To use some menus, you must be in the appropriate view. For example, you must be in the **Protocols** view to use the **Protocols** pull-down menu.



### Right-clicking

Right-clicking an item, such as a method, brings up a menu of available actions.



# Using Protocol Manager

This section of the Protocol Manager *User's Guide* covers:

- o [Using databases](#)
- o [Working with programs and projects](#)
- o [Working with protocols](#)
- o [Working with methods](#)
- o [Adding attributes to methods](#)
- o [Using filters to organize information](#)
- o [Managing organizations](#)
- o [Managing references](#)
- o [Checking for errors](#)
- o [Opening log files in the Help menu](#)
- o [Building Protocol Manager reports](#)

*NOTE: The Protocol Manager reports function was added late in the development stage. For this reason, most screen shots used in the documentation do not show the **Reports** menu item in the Protocol Manager toolbar.*

# Using databases in Protocol Manager

Protocol Manager uses databases to store protocols and methods. If a database is not available for your project, you must create one before you can begin to work with Protocol Manager. Databases can also be imported and exported.

Use the Database Administration module to create, update, delete, back up, and restore databases. The module was installed on your computer during the Protocol Manager installation process.

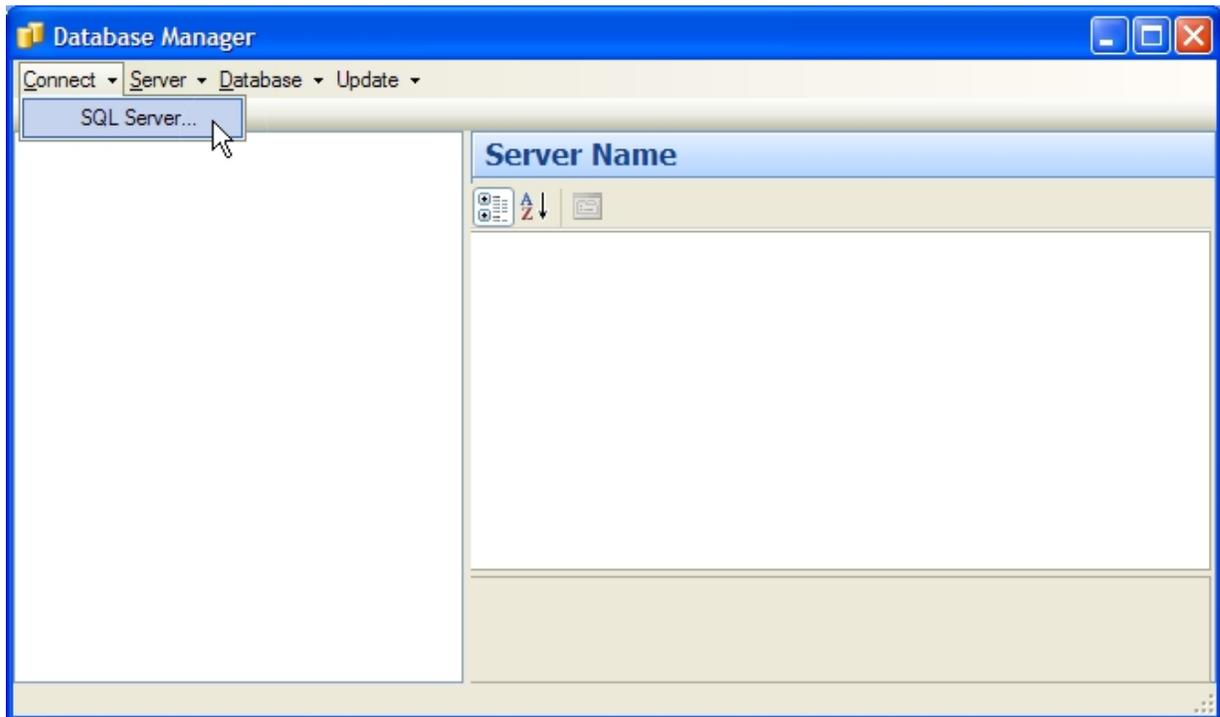
For information, see:

- o [Creating a database](#)
- o [Exporting a database](#)
- o [Importing a database](#)

## Creating a database

Use the following procedure to create a new database:

1. Double-click the **Database Administration** icon on your desktop or launch the application from the **Start** menu.
2. In the **Connect** pull-down menu, select **SQLServer**.



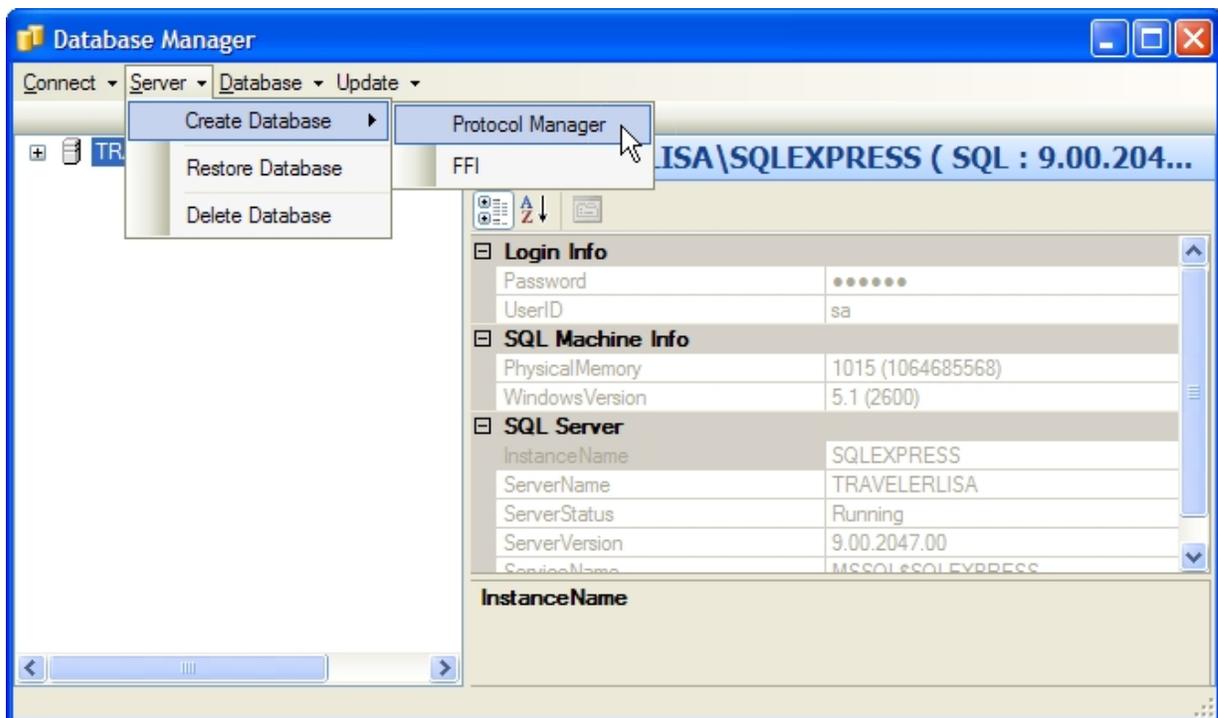
3. In the **Server Login** window, select your SQLEXPRESS server instance from the drop-down list. Enter the username **sa** and your SQL password.



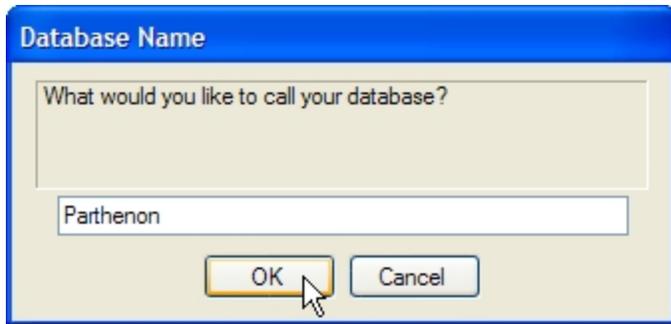
[continued](#)

## Creating a database (continued)

4. In the **Server** pull-down menu, select **Create Database**, and then select **Protocol Manager**.



5. Enter a unique name for the new database and then click **OK**.



*NOTE: If you add a new database with the same name as an existing database, the new database will replace the existing database. Be sure to use unique names for your databases.*

6. A DOS window and a progress bar will open. Database creation will take a few moments.

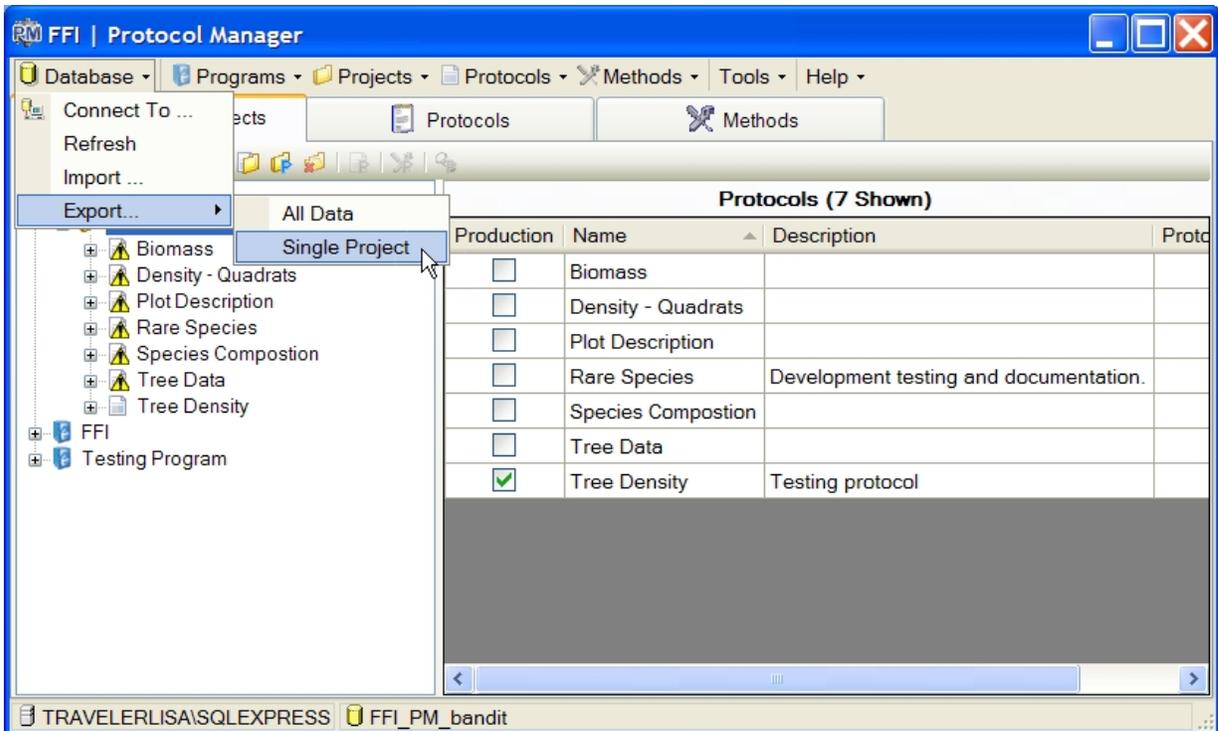
## Exporting a database

You can export your Protocol Manager database for use in FFI or other applications.

*NOTE: Exported databases are XML files with a `.pmd` extension. The default file name is `FFI_PM_Export.pmd`.*

To export a database:

1. Select **Export** in the **Database** pull-down menu. Then select **All Data** or **Single Project**.

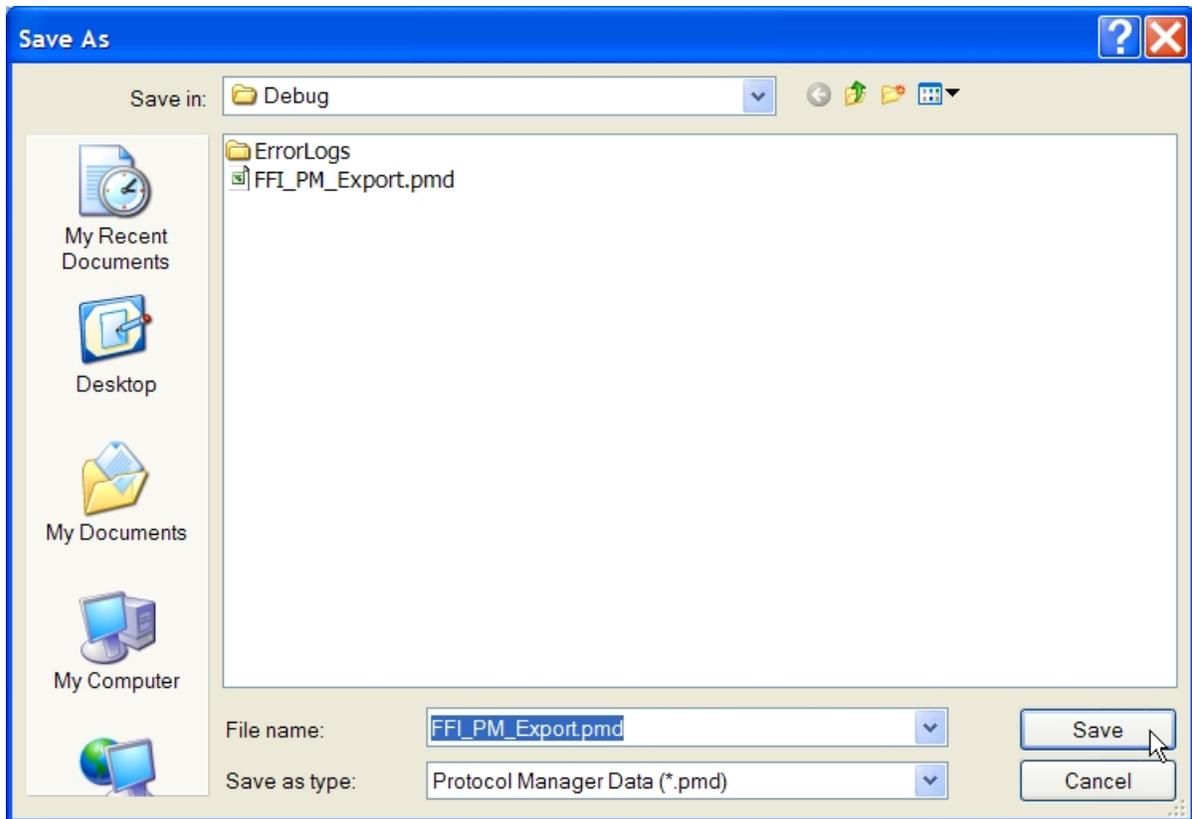


- In the pull-down list, highlight the project to be exported. Click **Export**.



*NOTE: This screen will not appear if you select All Data.*

- A **Save As** window opens. Accept the default file name or enter another name, and click **Save**.



See also [Importing a database](#).

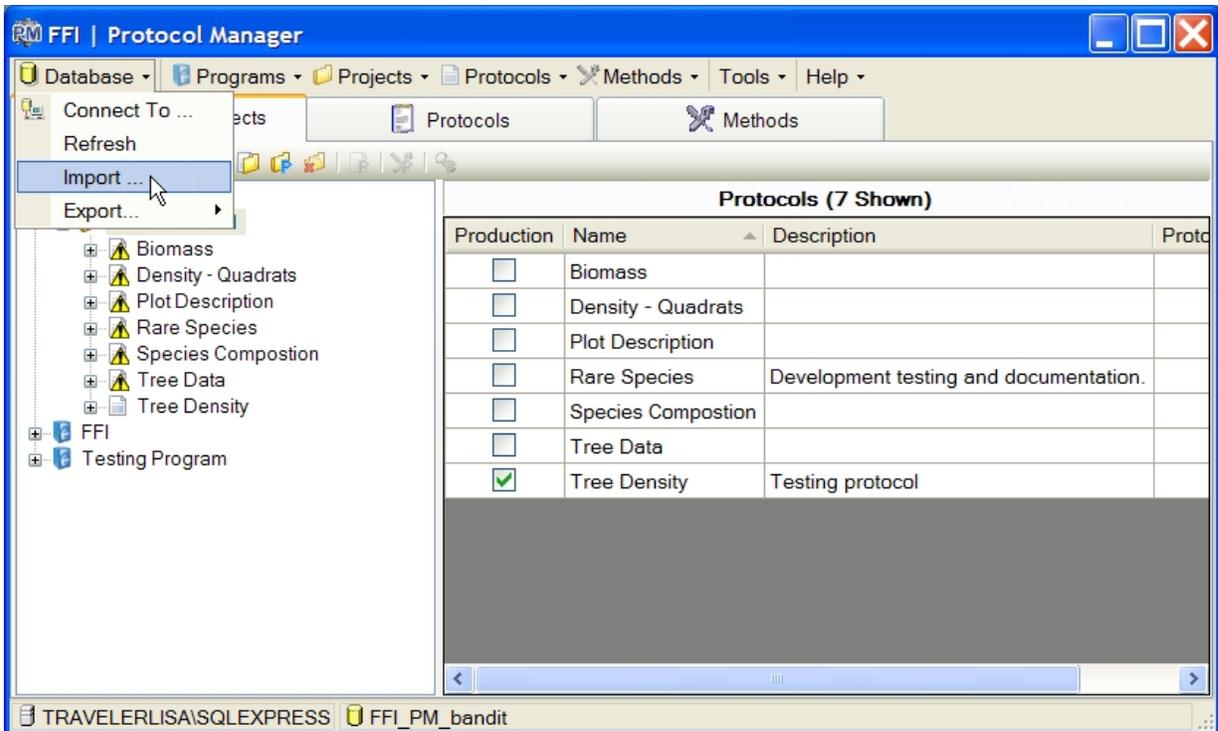
*NOTE: If necessary, you can also review [Importing a .75 schema](#).*

## Importing a database

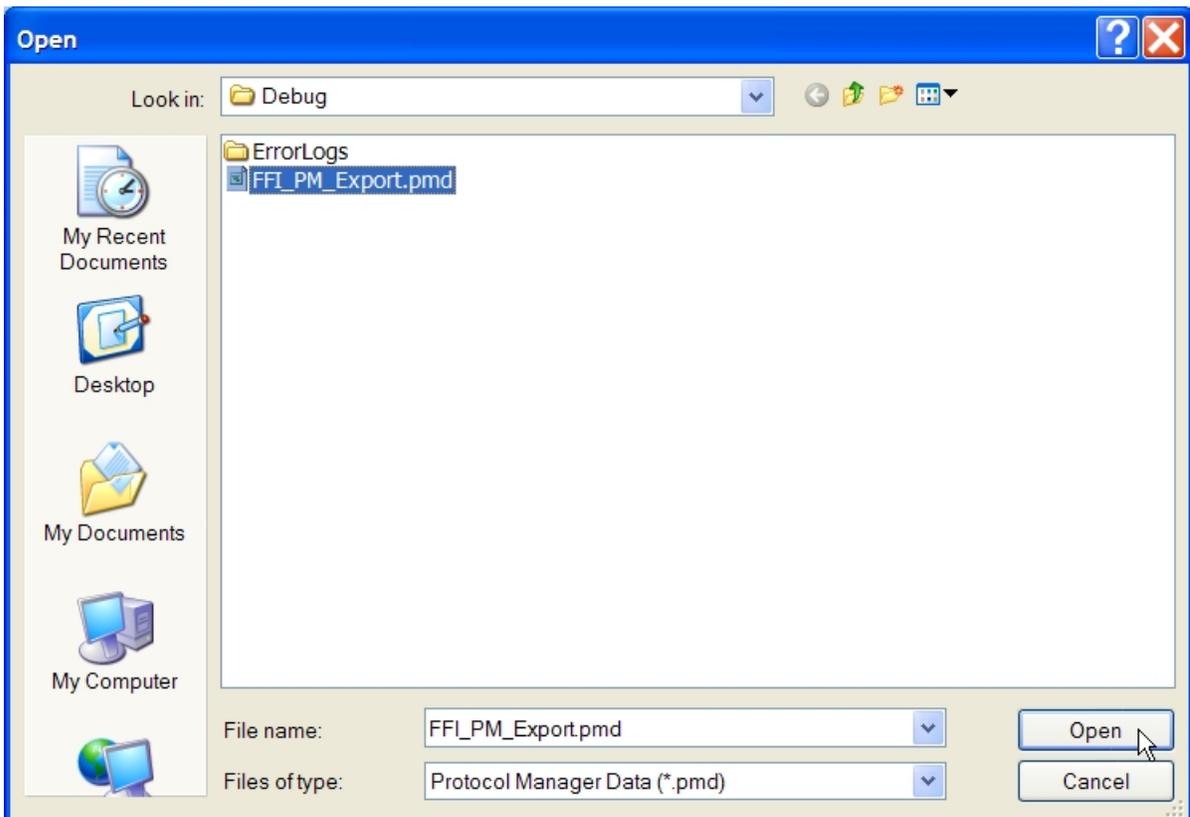
You can import a Protocol Manager database constructed by another Protocol Manager user, or one that represents a different administrative unit. Databases to be imported must be XML files with a `.pmd` extension.

To import a database:

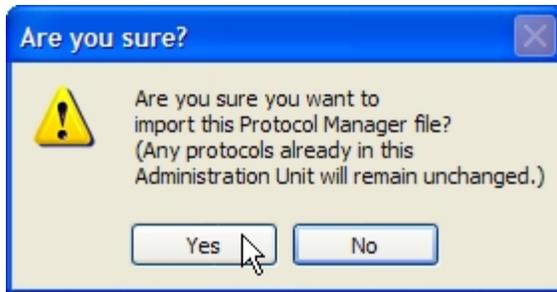
1. Select **Import** in the **Database** pull-down menu.



2. In the **Open** window, browse to and select the file to be imported. Click **Open**.



3. A confirmation window opens. Click **Yes** to accept the file import.



*NOTE: If you decline, your database will not be touched.*

See also [Exporting a database](#).

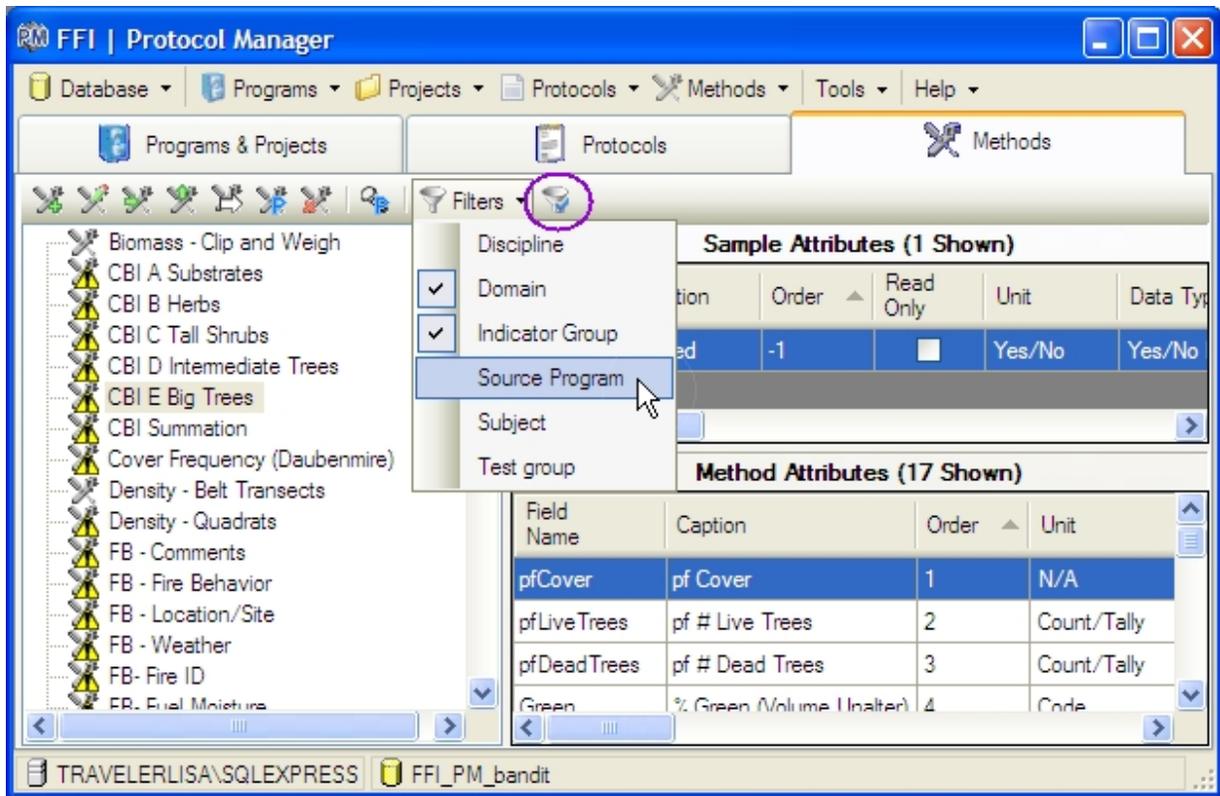
## Using filters to view and organize information

Filters are useful to dynamically sort protocols and methods that possess specific characteristics. In Protocol Manager, you can assign organization groups (main categories) and organizations (sub-categories) to define and classify your methods and protocols. The filters in Protocol Manager correspond to the organizations that you assign.

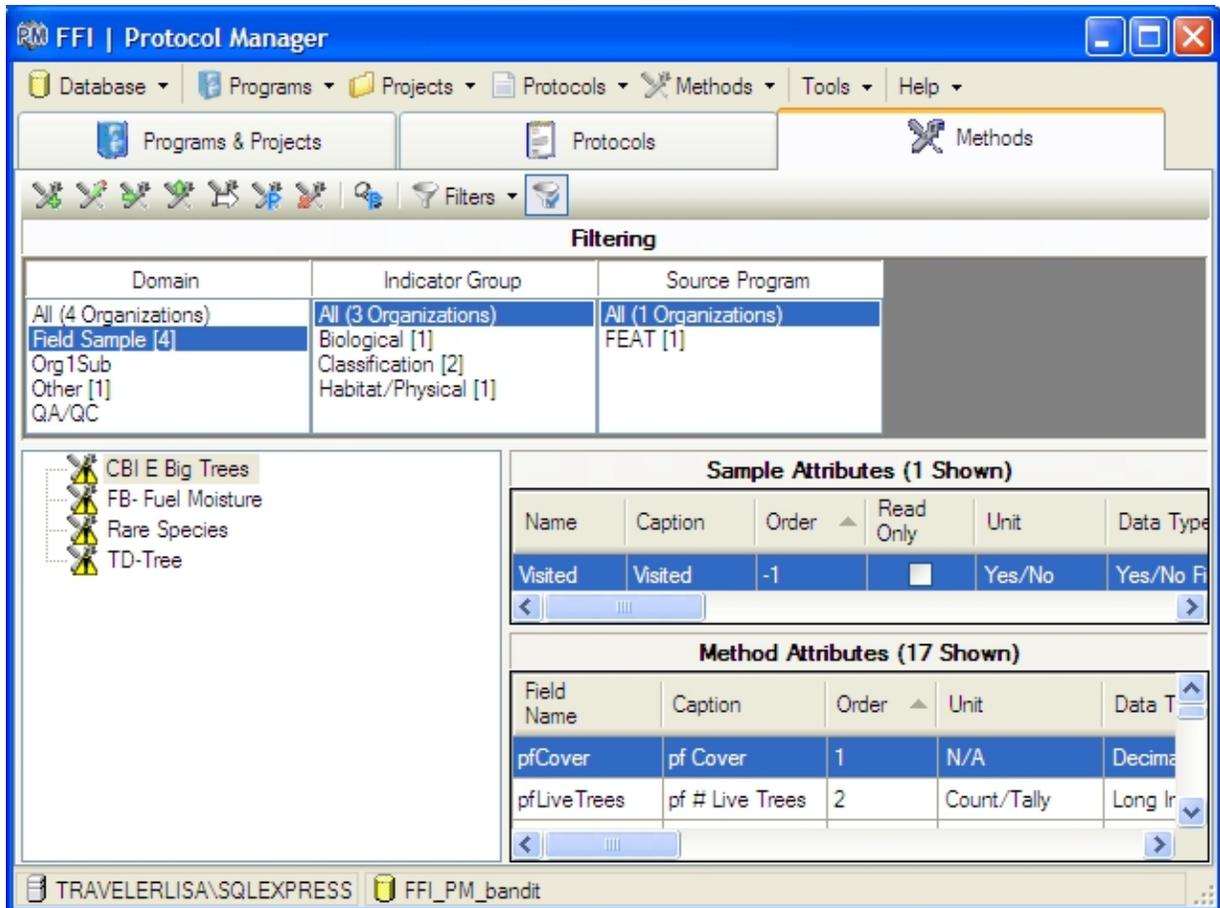
*NOTE: See [Managing organizations](#) for information about using organization groups and organizations to describe and categorize your methods and protocols.*

Filter icons are shown on the toolbar when you are in either the **Protocols** or **Methods** view.

1. Use the **Filters** pull-down menu to select filters. Once you have selected your filters, click the right-hand Filter icon (circled).



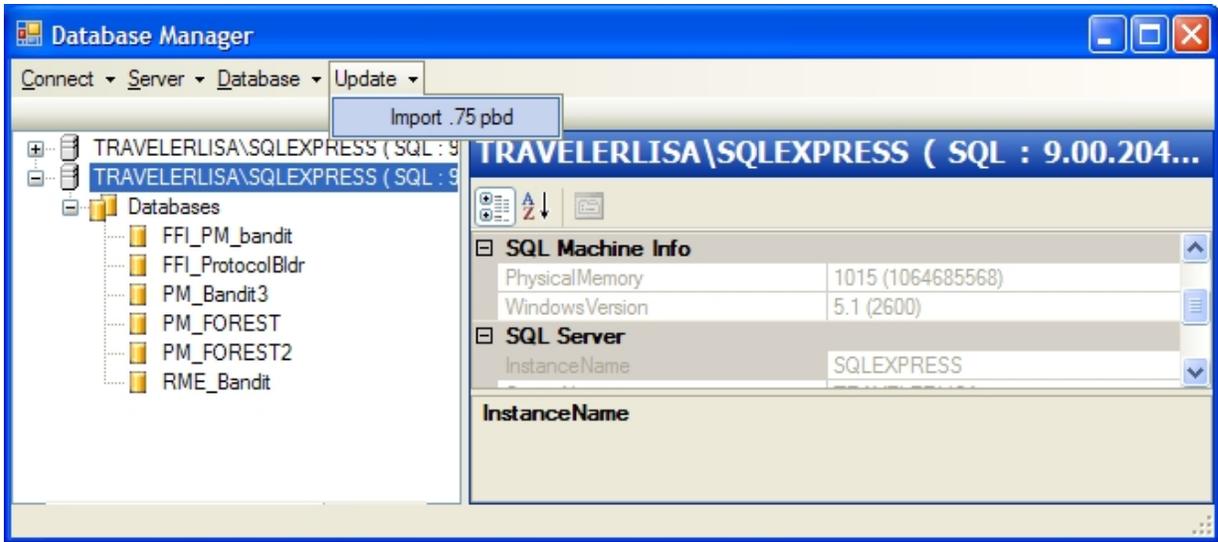
2. In the **Filtering** window, select filter criteria within each of your chosen filters.
3. Following is a list of methods filtered for the Domain *Field Sample*. Four methods were found. Indicator Group and Source Program were also selected in **Filters**, but were not filtered.



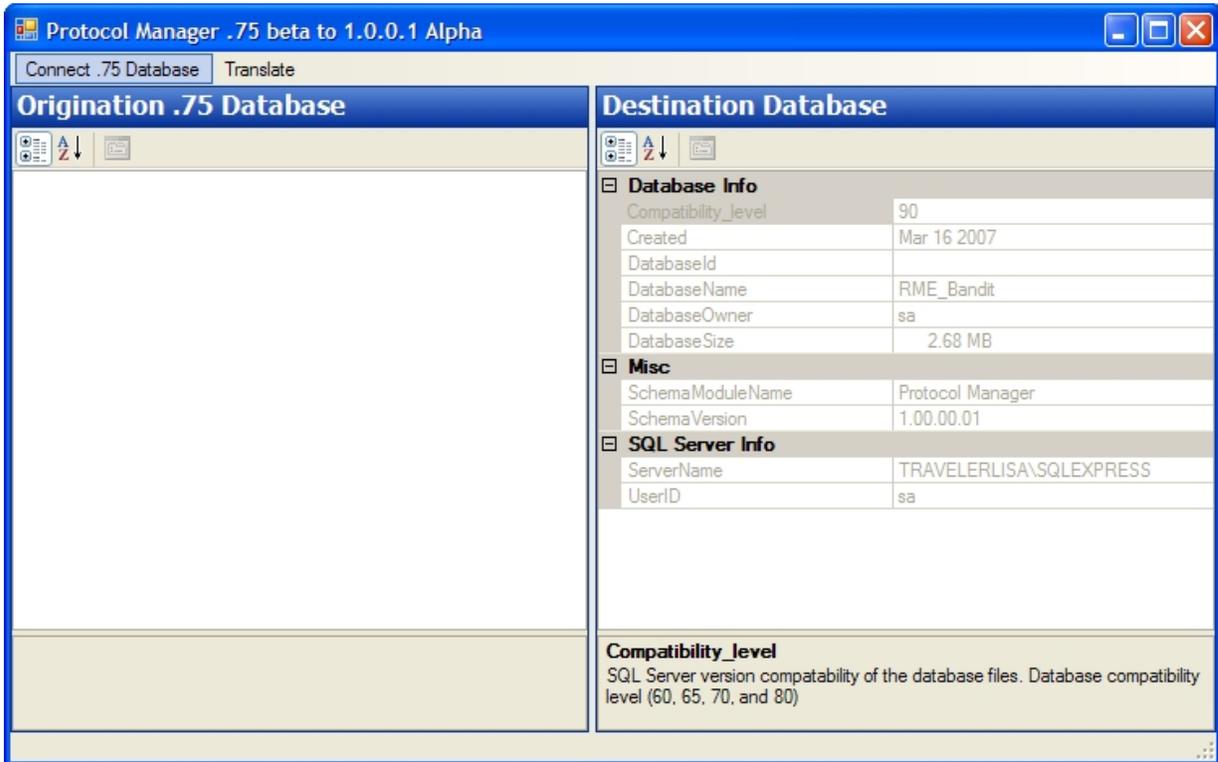
## Importing a .75 Protocol Manager schema

*NOTE: These instructions pertain only to RME Protocol Manager users. If you are an FFI user, disregard this section.*

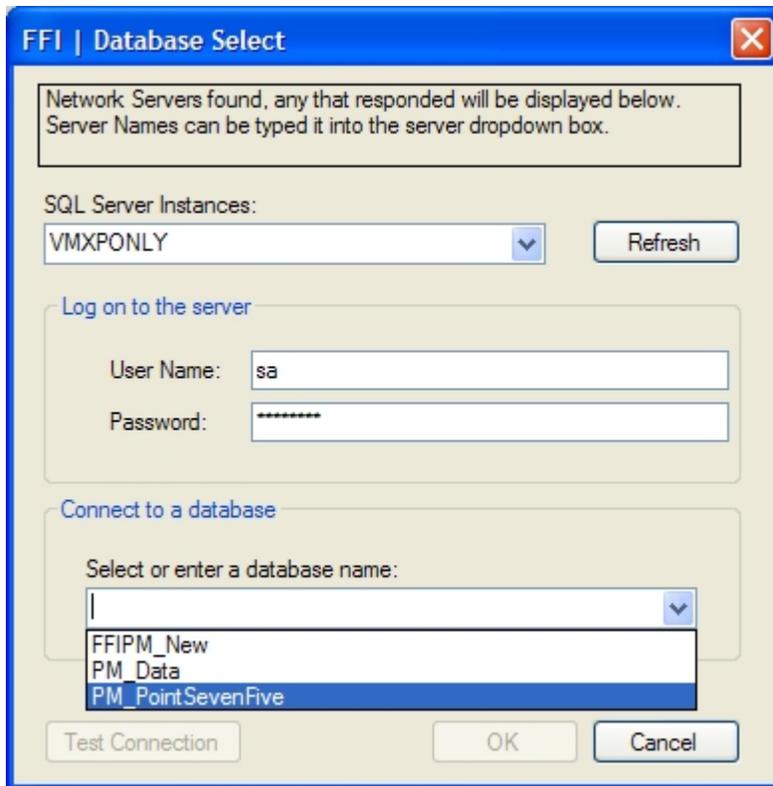
1. In the Database Manager window, click **Import .75pdb** in the **Update** pull-down menu.



2. To connect to your existing Protocol Manager database, click **Connect .75 Database** in the .75 Beta to 1.0.0.1 Alpha window.



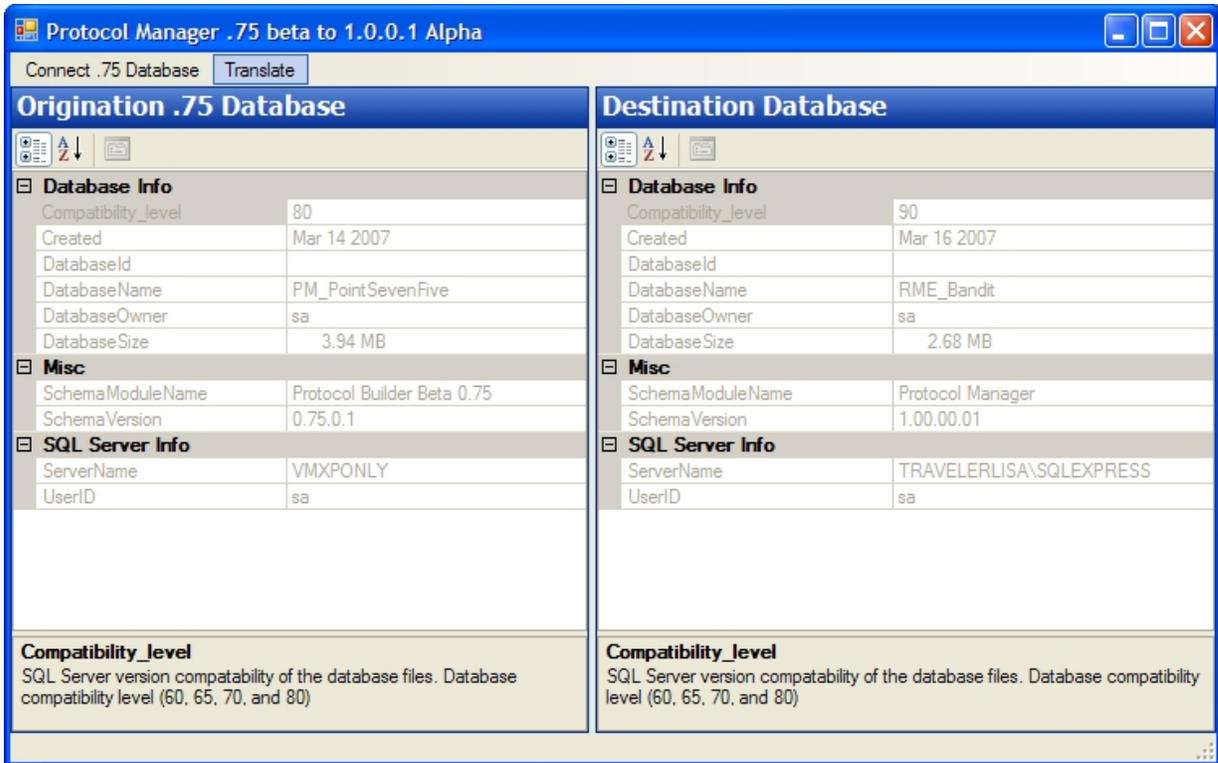
3. Log into the appropriate SQL server and select your existing .75 database.



[continued](#)

## Importing a .75 Protocol Manager schema (continued)

4. In the .75 Beta to 1.0.0.1 Alpha window, click **Translate**.



5. In the **Import?** pop-up window, click **Yes**.



6. When the import is complete, click **OK**.

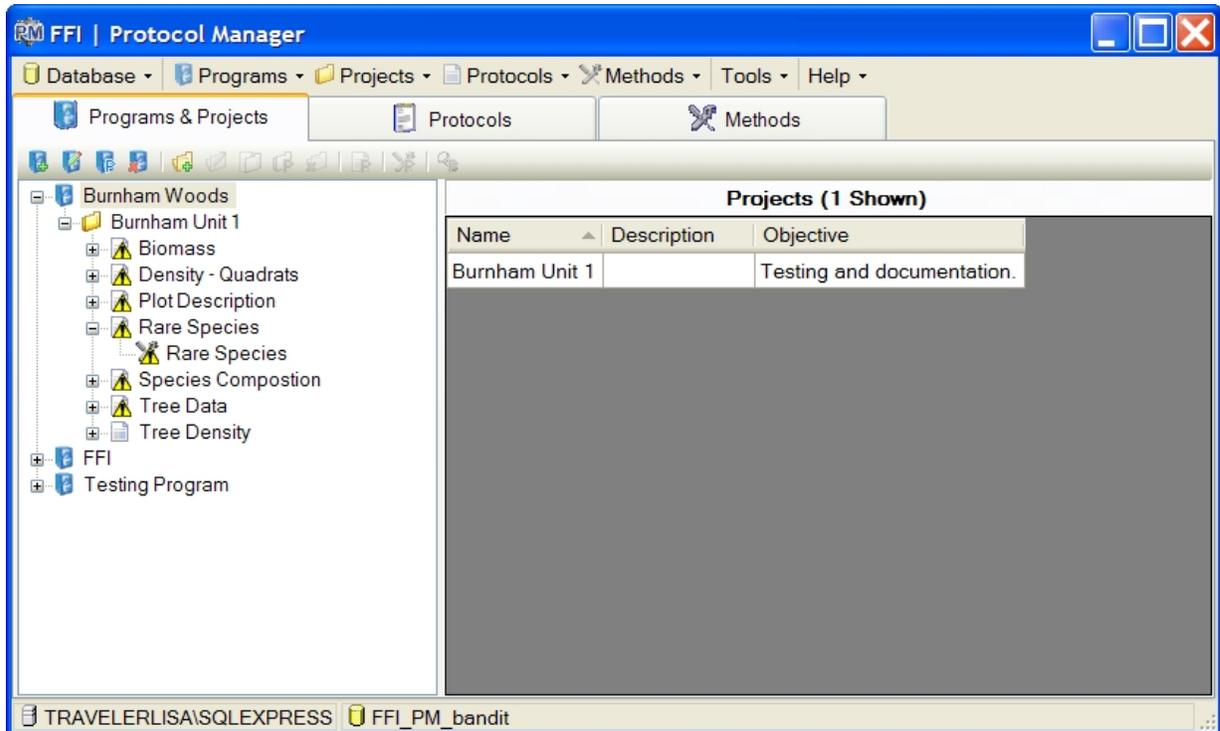


7. Close the FFI Database Administration module.

# Working with programs and projects

Use the **Programs and Projects** pull-down menus while in the **Programs & Projects** tab to build a framework for your Protocol Manager database.

*NOTE: The functions available on the pull-down menus correspond to the small icons in the **Programs & Projects** toolbar.*



The available **Programs & Projects** functions are:

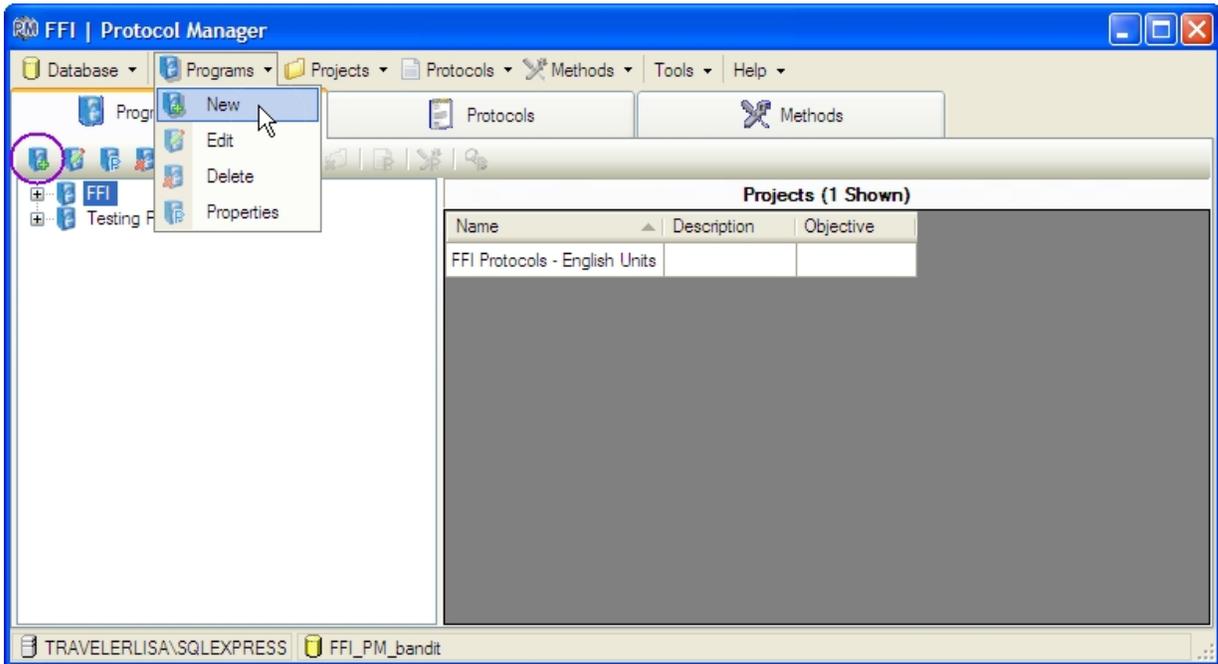
- o [Adding a new program](#)
- o [Adding a new project](#)
- o [Editing a program or project](#)
- o [Deleting a program or project](#)
- o [Reviewing a program or project's properties](#)
- o [Adding or removing project protocols](#)

## Adding a program

*In Protocol Manager, a program is a collection of projects that use a consistent set of protocols to collect monitoring data for specific sites within multiple geographic locations.*

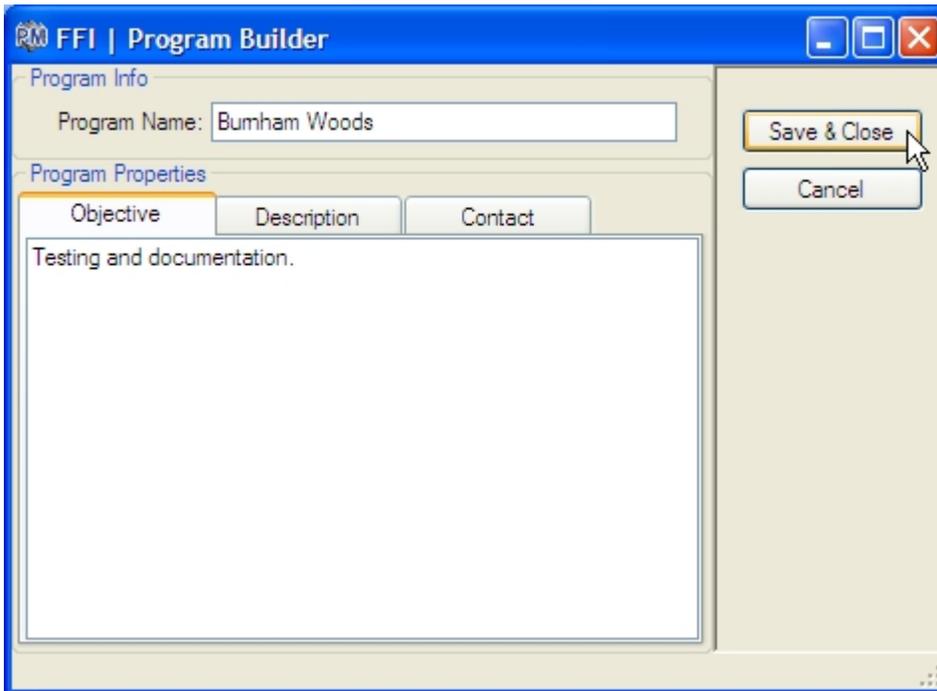
To add a new monitoring program to the database:

1. In the **Programs** pull-down menu, select **New**. You can also click the **New Program** icon at the left of the toolbar to add a new program.

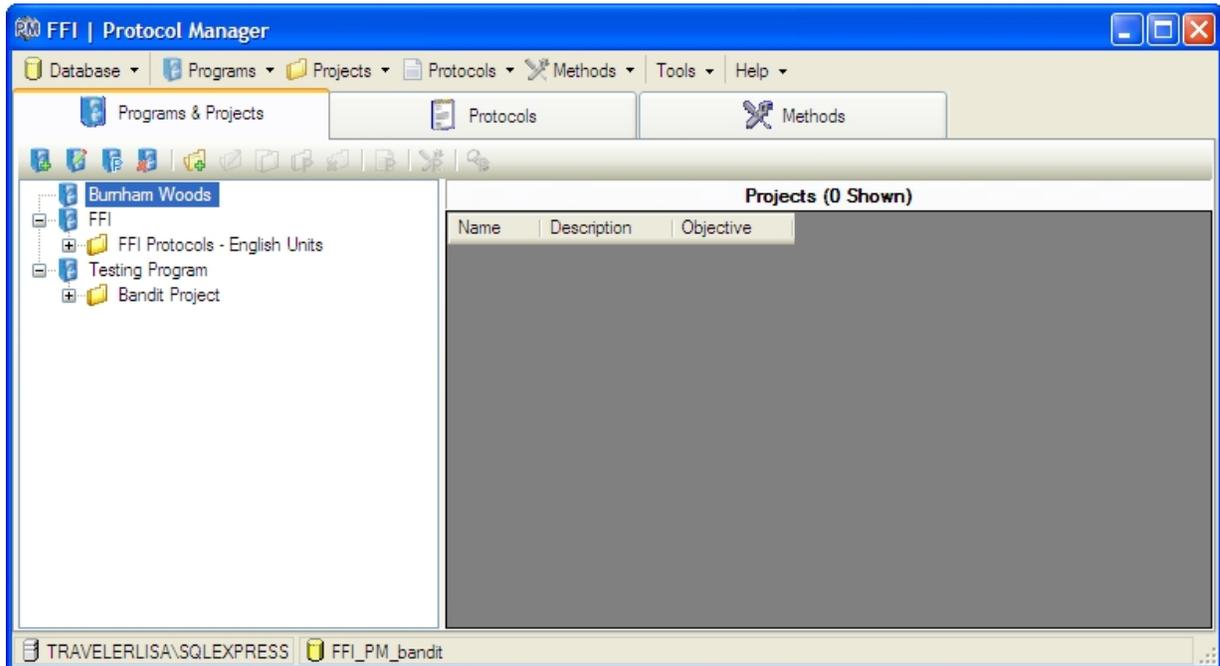


2. In the **Program Builder** window, enter information describing the new program. When you're finished, click **Save & Close**.

*NOTE: The **Objective** and **Description** text fields can accommodate up to 400,000 characters. You can cut and paste text into these fields.*



3. The new program **Burnham Woods** is now listed in the tree view. Note that this program does not yet contain a project.



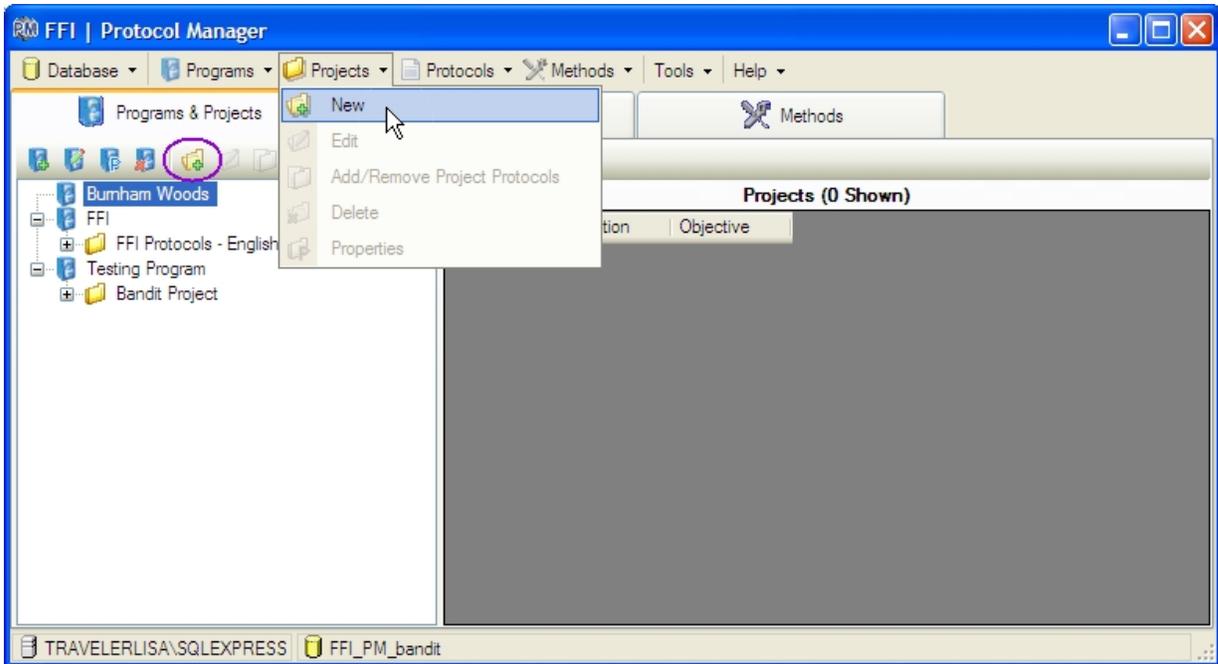
See [Adding a project](#).

## Adding a project

*In Protocol Manager, a project is 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.*

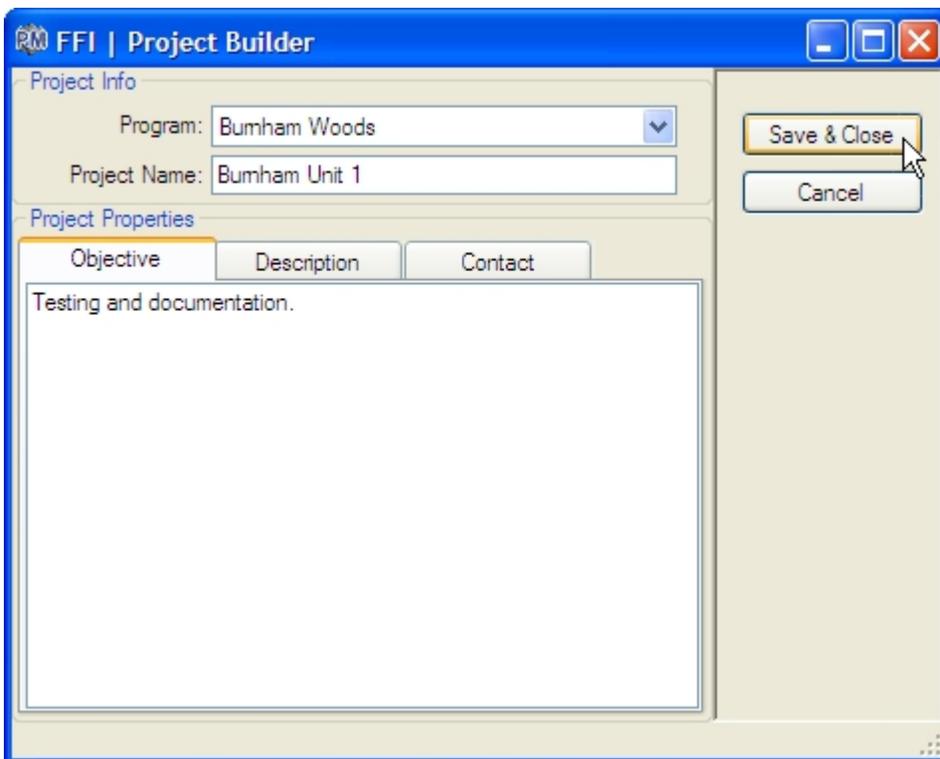
To add a new project to a monitoring program:

1. In the **Projects** pull-down menu, select **New**, or click the **Add a new project** icon on the toolbar.

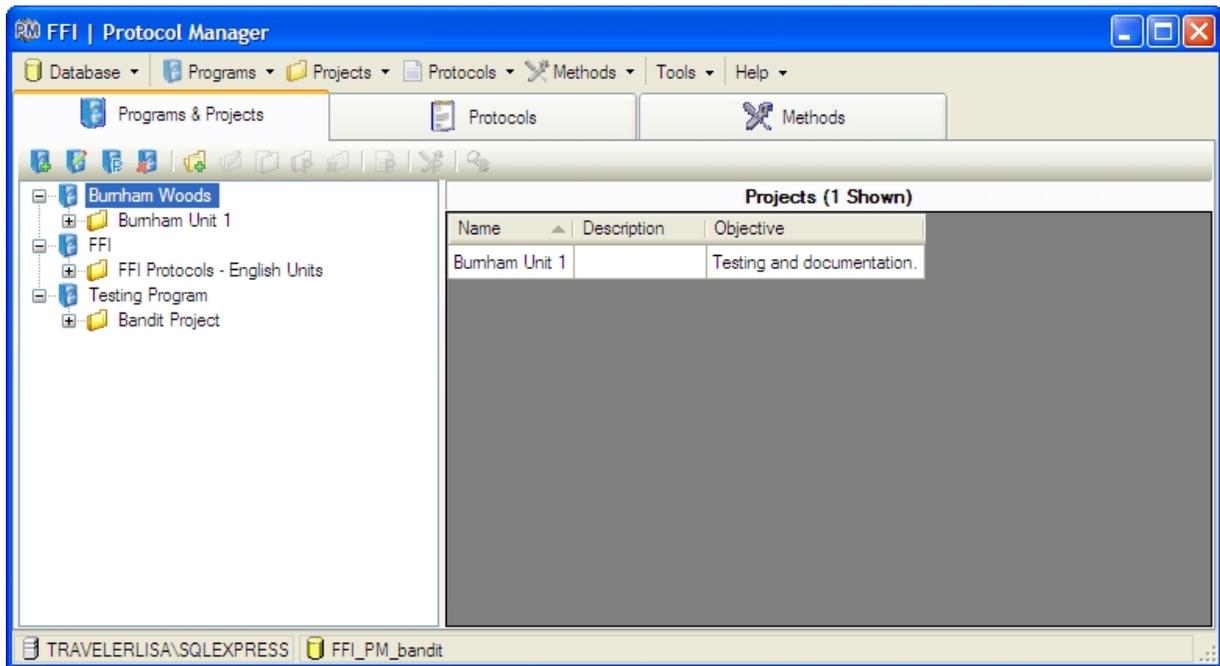


2. The **Project Builder** window opens. Select the program in the pull-down menu. Name the new project and enter any descriptive information. When you're finished, click **Save & Close**.

*NOTE: The **Objective** and **Description** text fields can accommodate up to 400,000 characters. You can cut and paste text into these fields.*



3. The new project **Burnham Unit 1** is listed in the tree view within the program **Burnham Woods**.



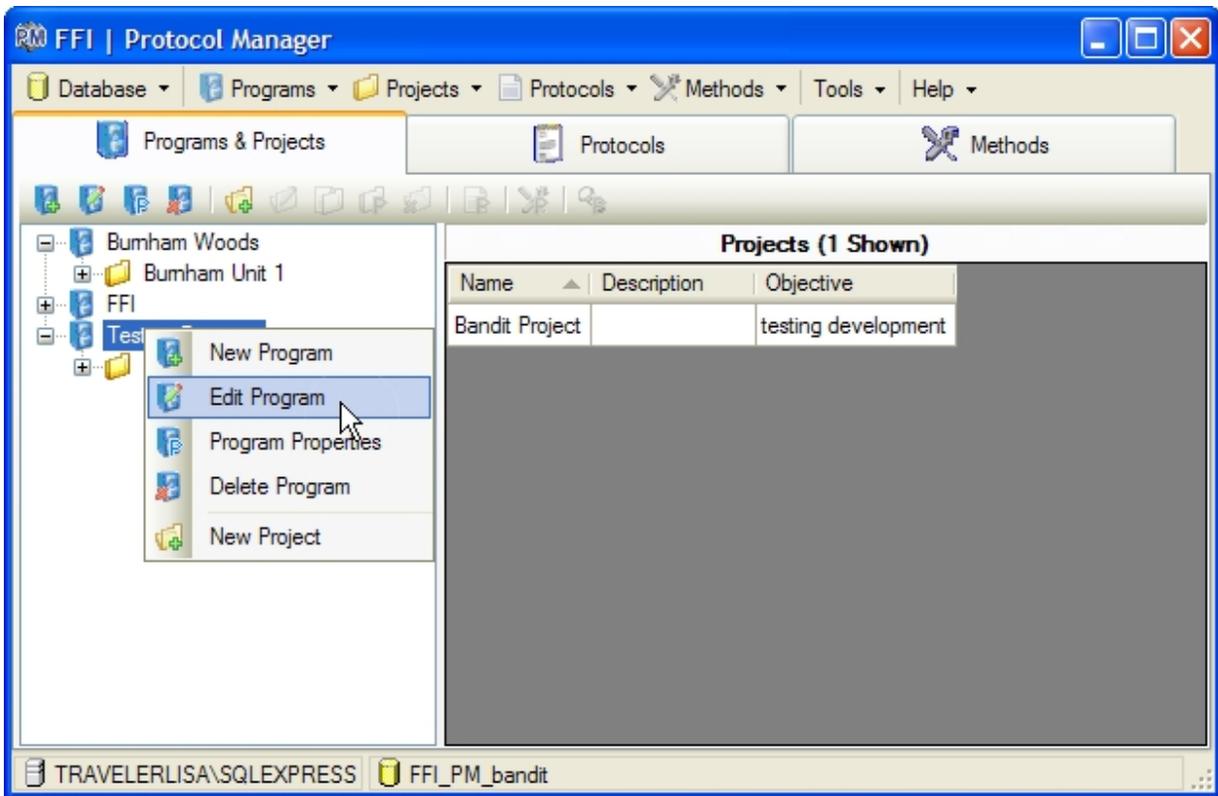
See also:

[Assigning protocols to a project](#)

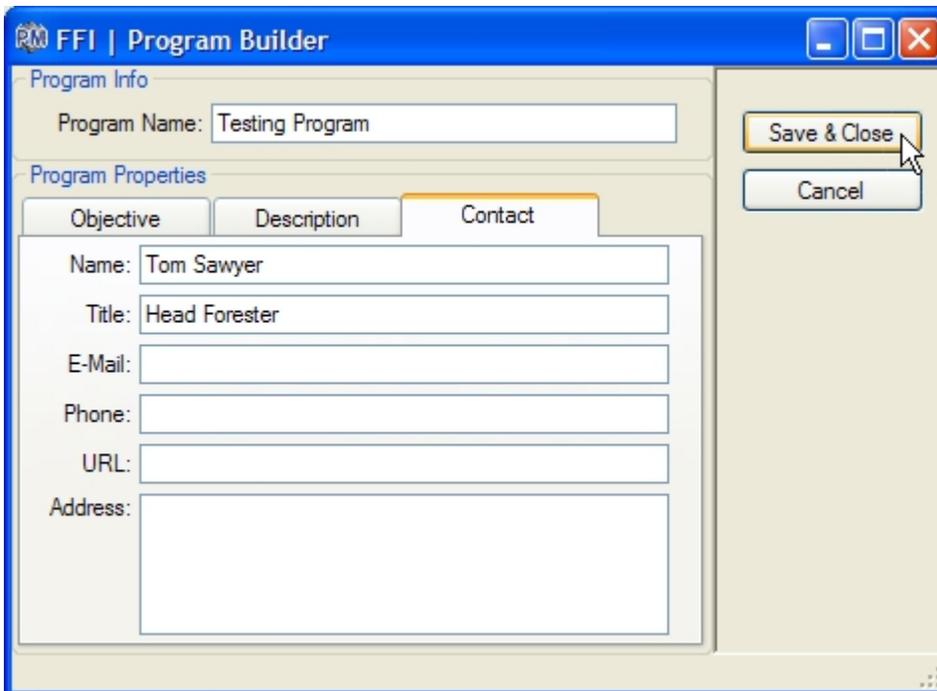
## Editing programs and projects

Procedures for editing programs and projects are very comparable. In this example, a program is being edited. To edit:

1. Right-click the program or project name in the tree view and select **Edit Program**.



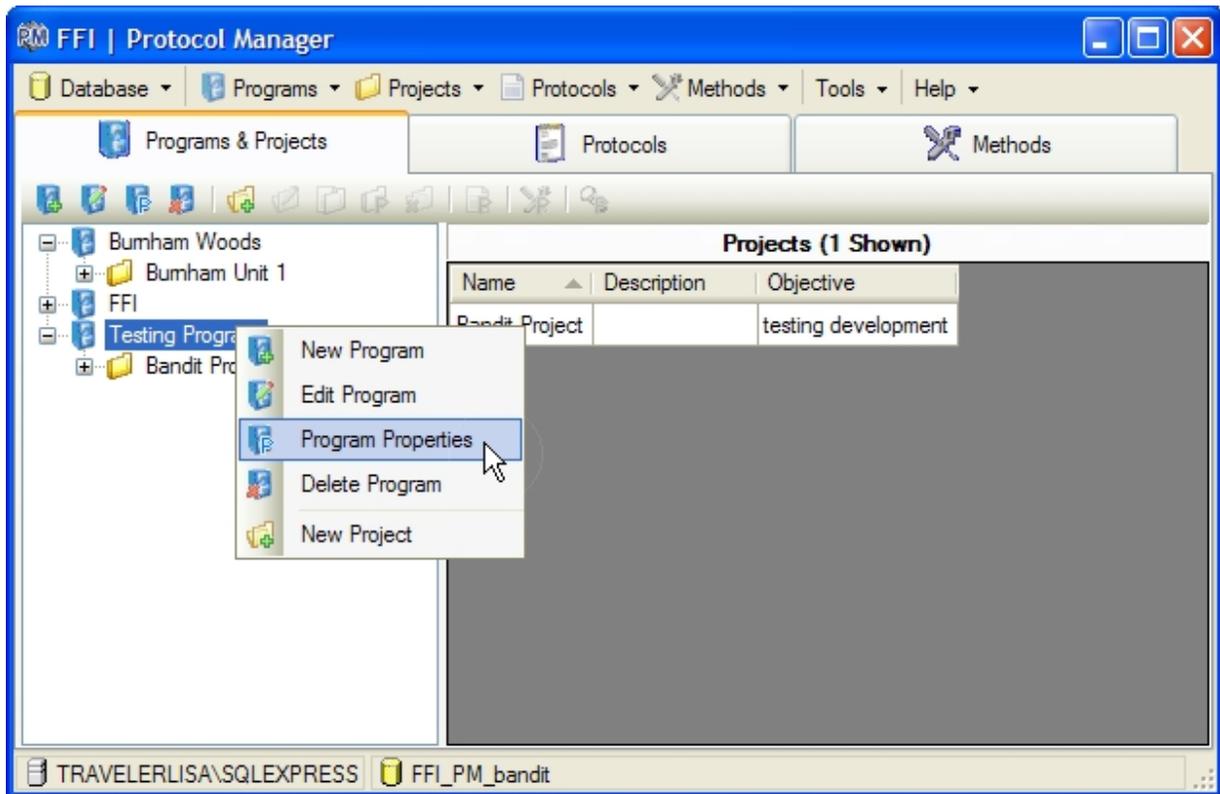
2. The **Program Builder** or **Project Builder** opens. Make necessary changes and additions, and click **Save & Close**.



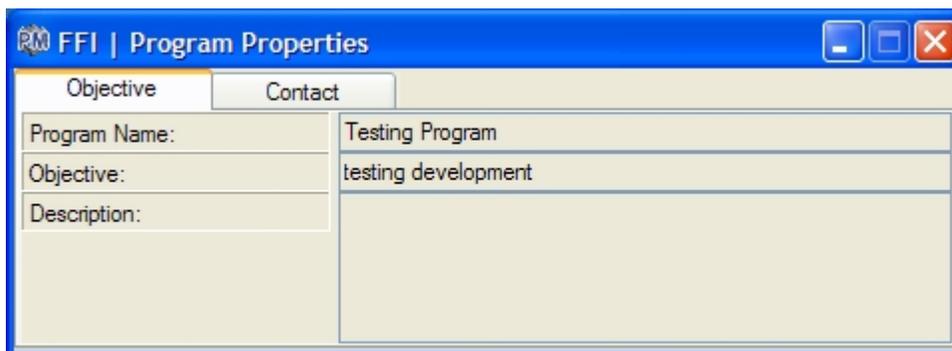
## Reviewing program or project properties

Procedures for reviewing program and project properties are very comparable. In this example, program properties are being reviewed. To review:

1. Right-click the program or project name in the tree view and select **Program Properties**.



2. The **Program Properties** or **Project Properties** window opens. When finished, close the window.



*NOTE: You cannot change properties in this window. Use the **Edit** function to change properties.*

## Deleting programs and projects

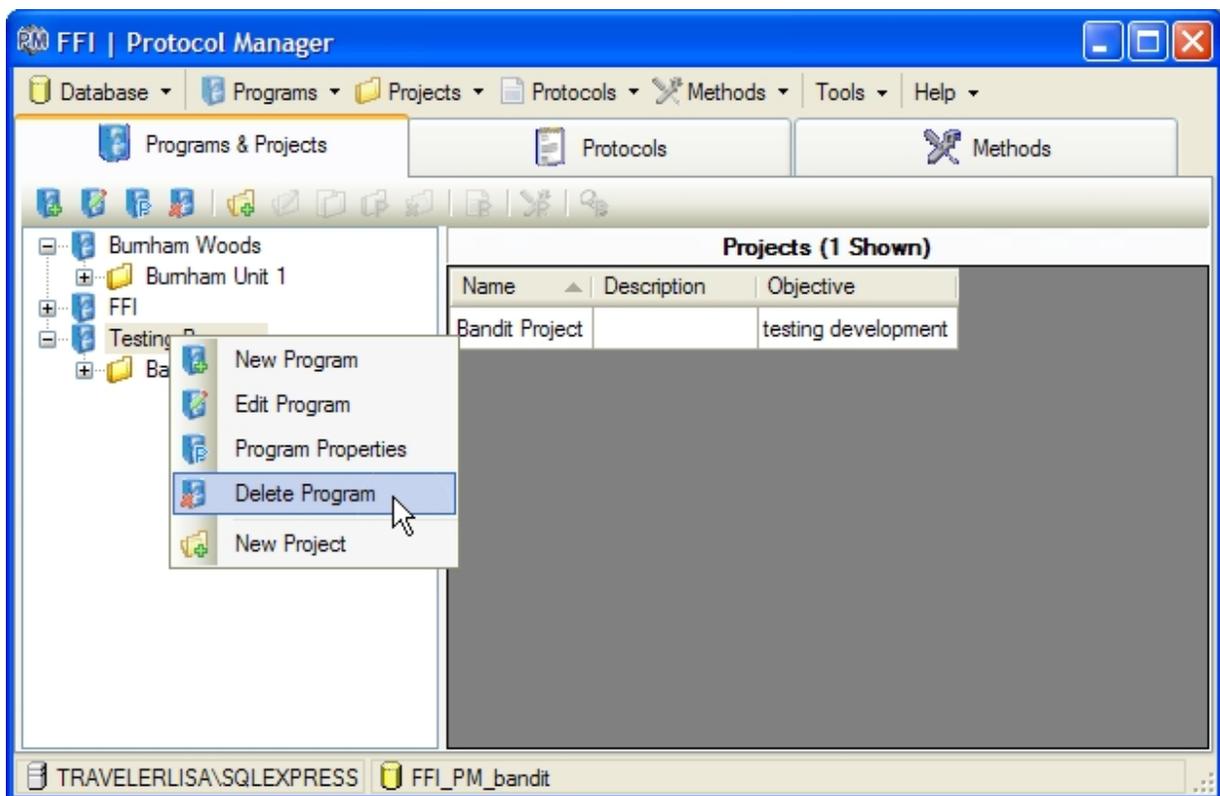
Use caution when deleting programs and projects, since you will lose protocol relationships as well as the project and program.

Procedures for deleting programs and projects are very comparable. In this example, a program is being deleted.

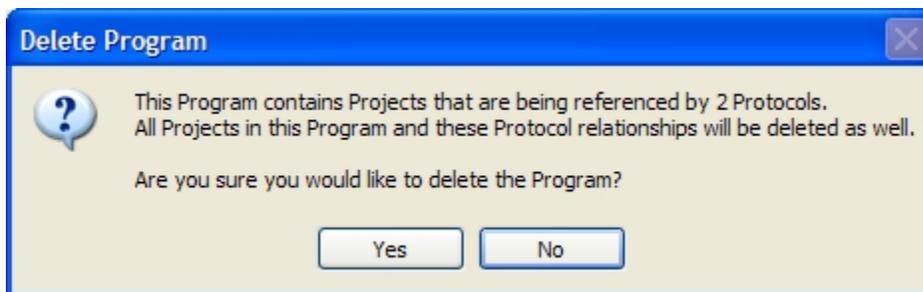
*NOTE: You must confirm deletion of programs and projects that are associated with protocols and methods.*

To delete:

1. Right-click the program or project name in the tree view and select **Delete Program**.



2. Read the information in the **Delete Program** window. Click **Yes** or **No** to delete or retain the program or project.

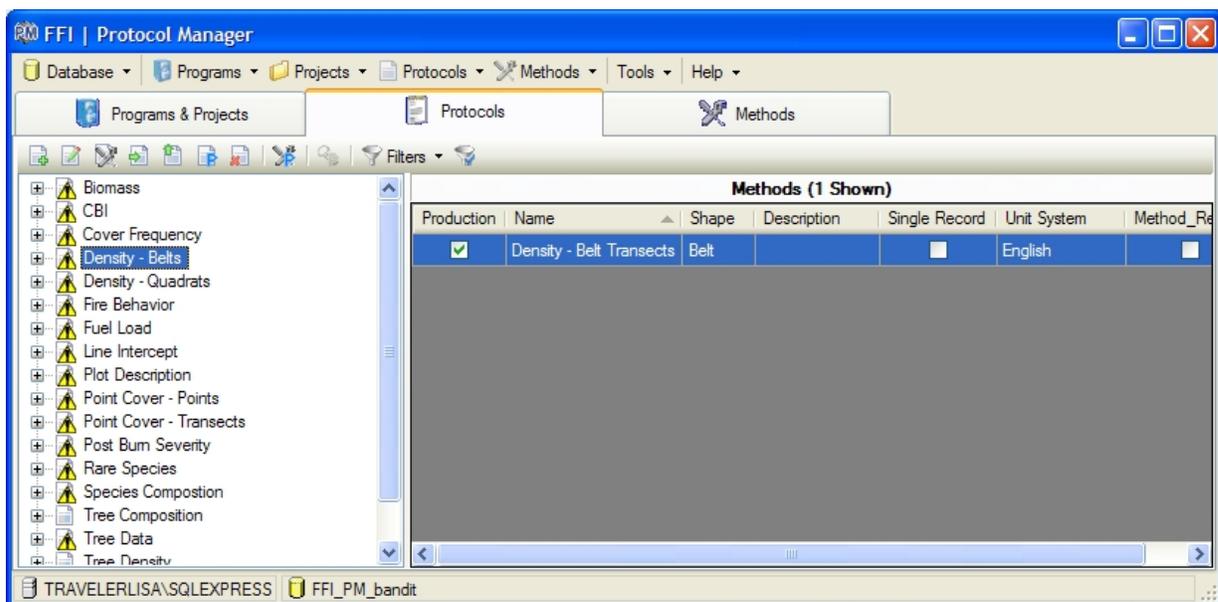


## Working with protocols

*A protocol is a set of one or more closely related sampling methods 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.*

Use the **Protocols** pull-down menus while in the **Protocols** tab to create, modify, and organize your protocols.

*NOTE: The functions available on the pull-down menus correspond to the small icons in the **Protocols** toolbar.*



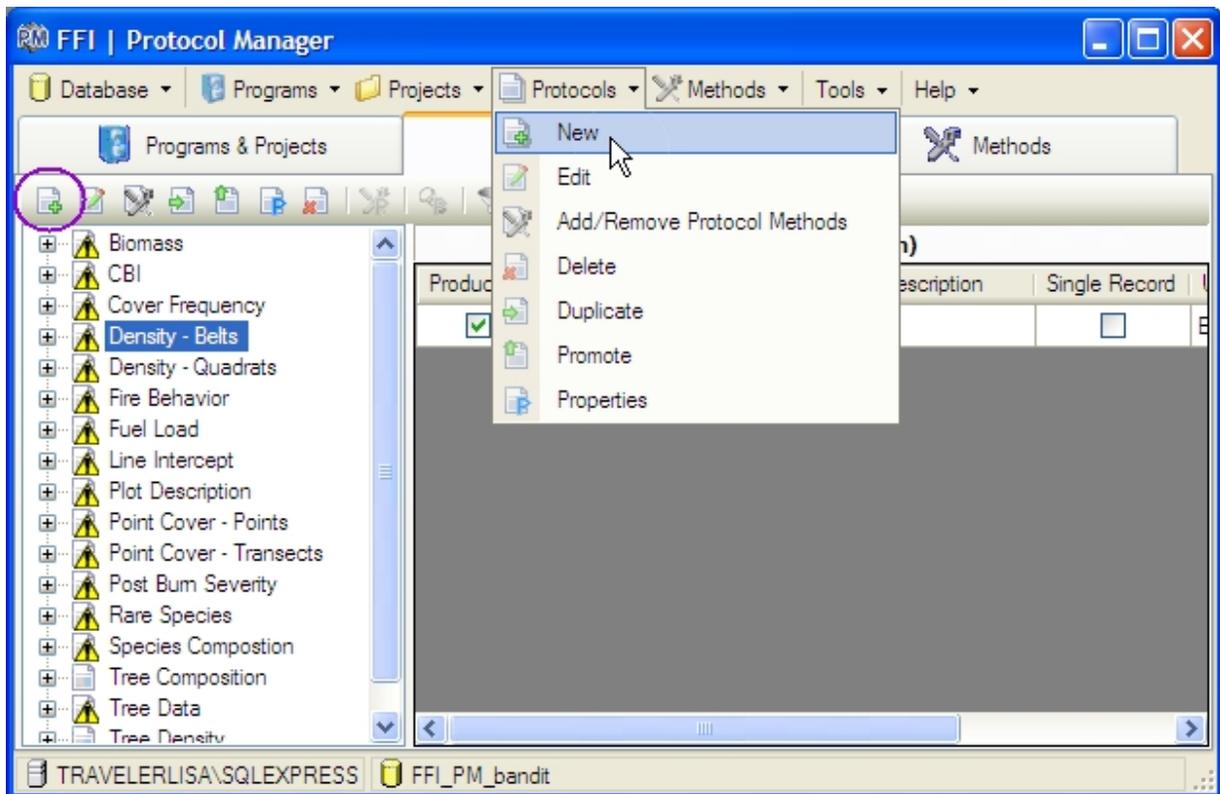
The available **Protocols** functions are:

- [Adding a new protocol.](#)
- [Editing a protocol.](#)
- [Adding and removing methods.](#)
- [Assigning protocols to projects.](#)
- [Deleting a protocol.](#)
- [Duplicating a protocol.](#)
- [Promoting a protocol.](#)
- [Viewing protocol properties.](#)

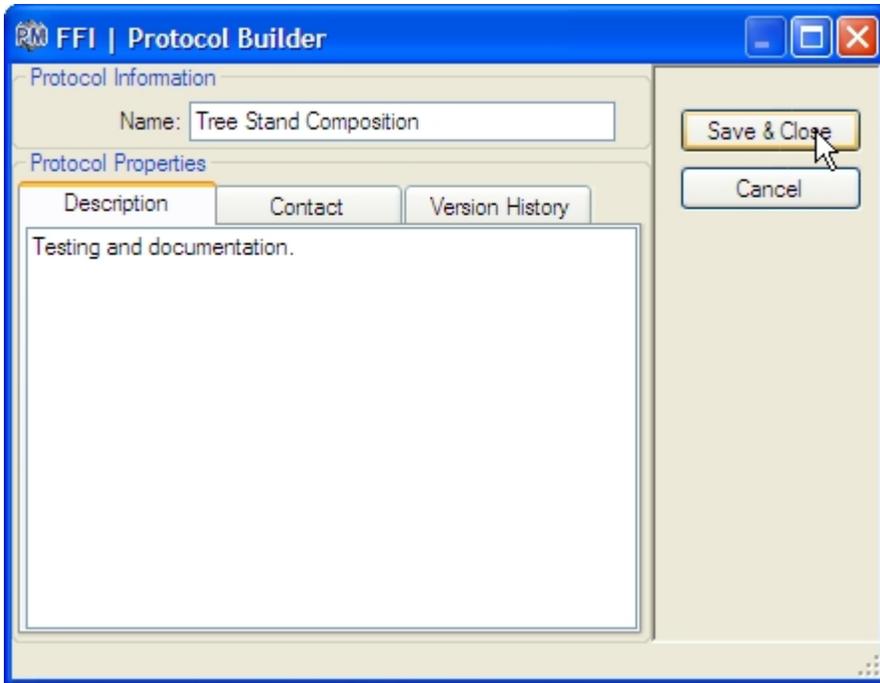
## Adding a new protocol

To add a new protocol to a database:

1. Highlight the appropriate program or project in the main Protocol Manager window.
2. Click the **Protocols** tab to switch to the Protocol view.
3. In the **Protocols** pull-down menu, select **New**. You can also click the **New Protocol** icon at the left of the toolbar to add a new protocol.

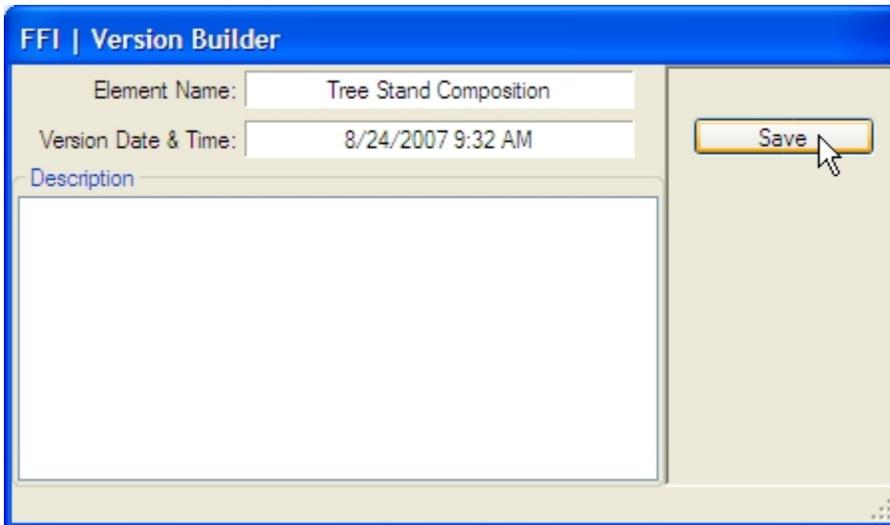


4. Enter a name and description for the new protocol. Here, the hypothetical protocol *Tree Stand Composition* is being added. If you wish, you can also add contact information (version history is added automatically). Click **Save & Close** when finished.



*NOTE: The **Description** text field can accommodate up to 400,000 characters. You can cut and paste text into these fields.*

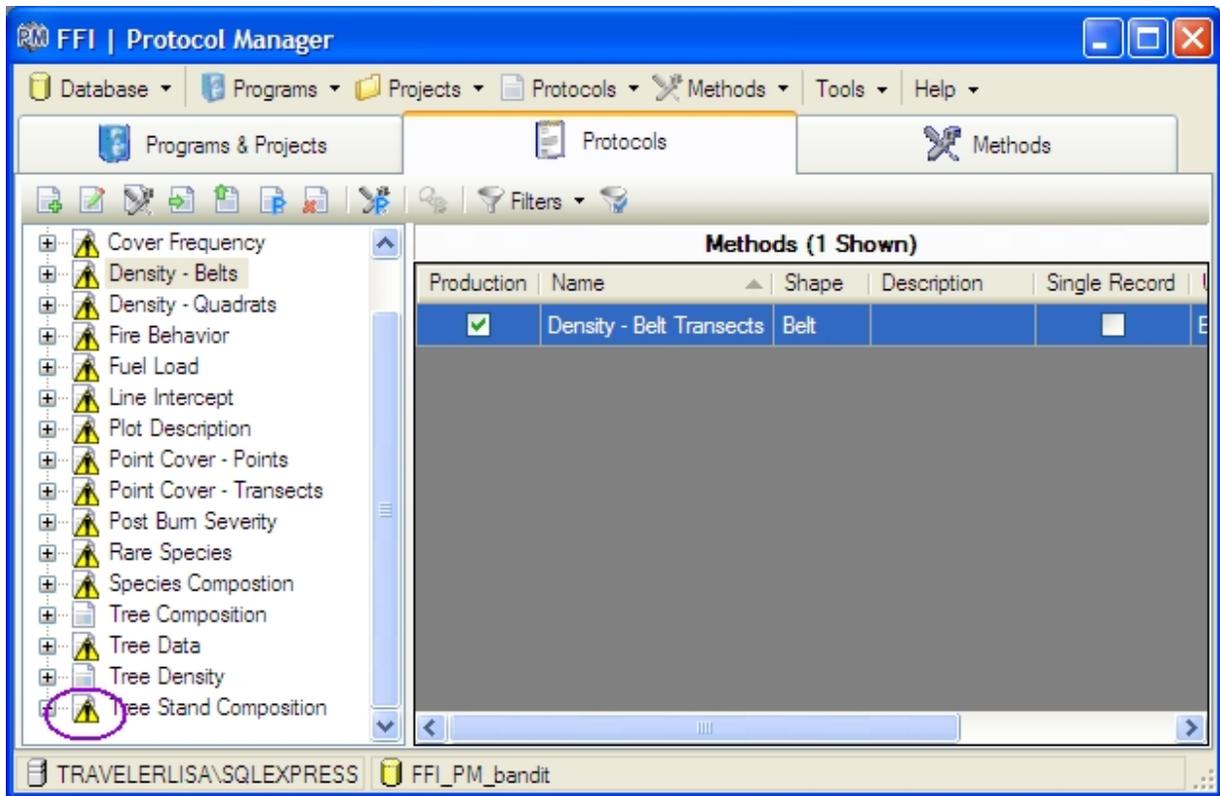
5. The **Version Builder** window opens. If you wish, you can add additional descriptive information here. Click **Save** to finish adding the new protocol.



[continued](#)

## Adding a new protocol (continued)

5. The new protocol *Tree Stand Composition* is now included in the **Protocols** list. As indicated by the yellow triangle, *Tree Stand Composition* is classified as **Development**.



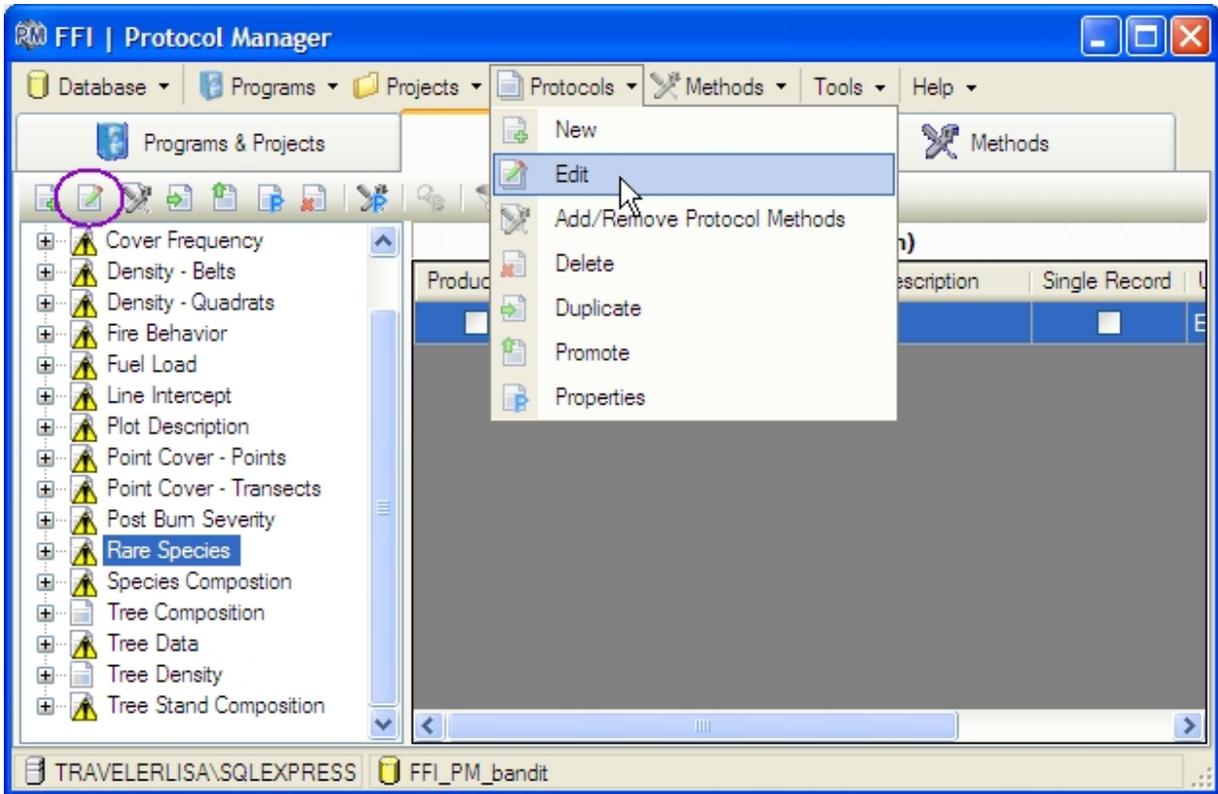
As shown, no methods are attached to the protocol. Also, the protocol is not assigned to a project.

- o To add methods to a protocol, see [Assigning methods to a protocol](#).
- o To assign the protocol to a project, see [Assigning protocols to a project](#).

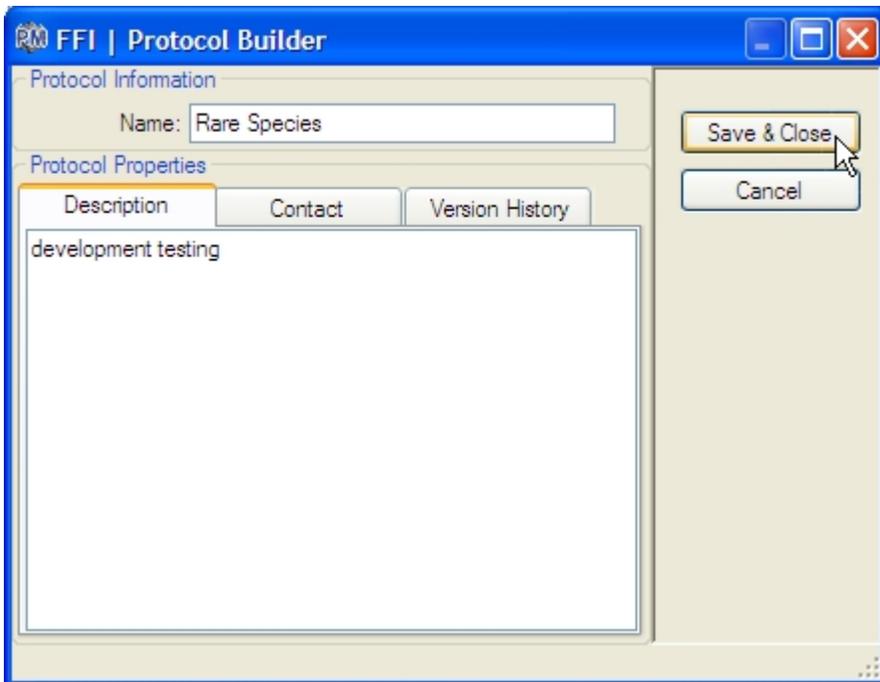
## Editing protocols

Protocols that are still in Development can be edited.

1. Highlight the protocol in the **Protocols** view.
2. Select **Edit** in the pull-down menu, or click the **Edit the selected protocol properties** icon in the toolbar.



3. The **Protocol Builder** window opens. Make necessary edits or add additional information, and click **Save & Close**.

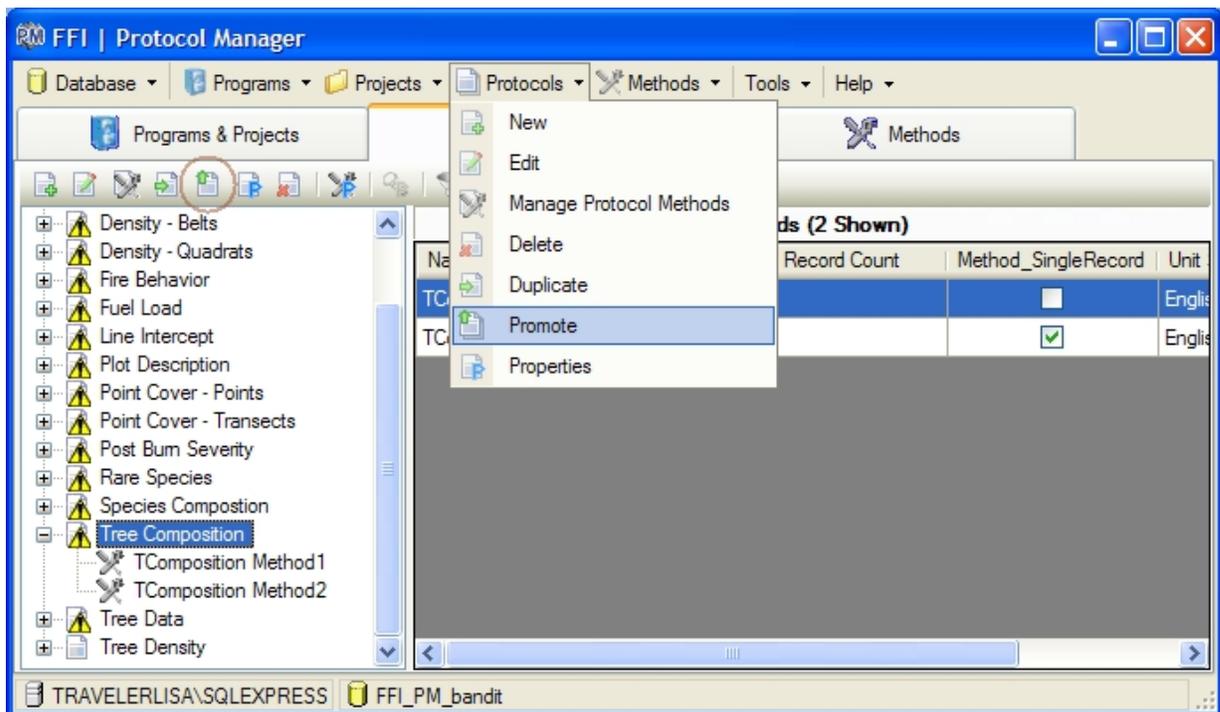


## Promoting protocols

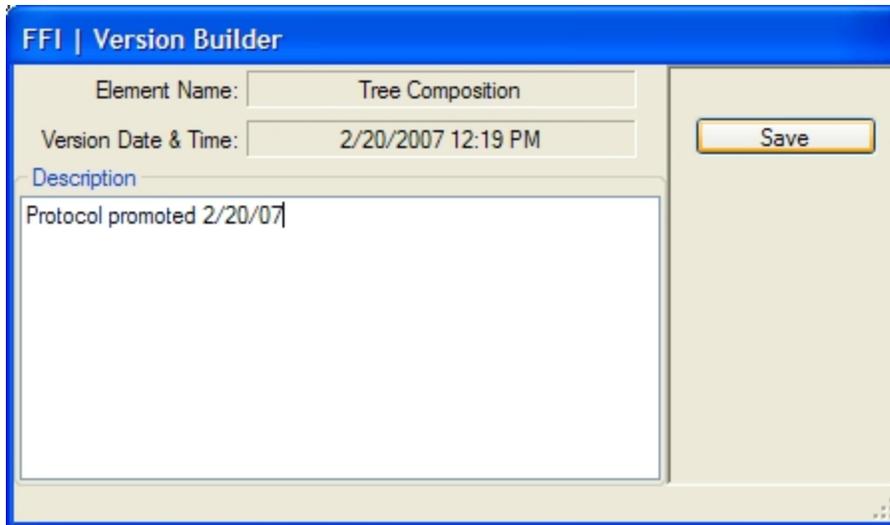
Once all methods contained within a protocol been accepted and promoted, the protocol can be promoted from Development to Production. At that point, it can no longer be edited.

*NOTE: See Development and Production status for further information.*

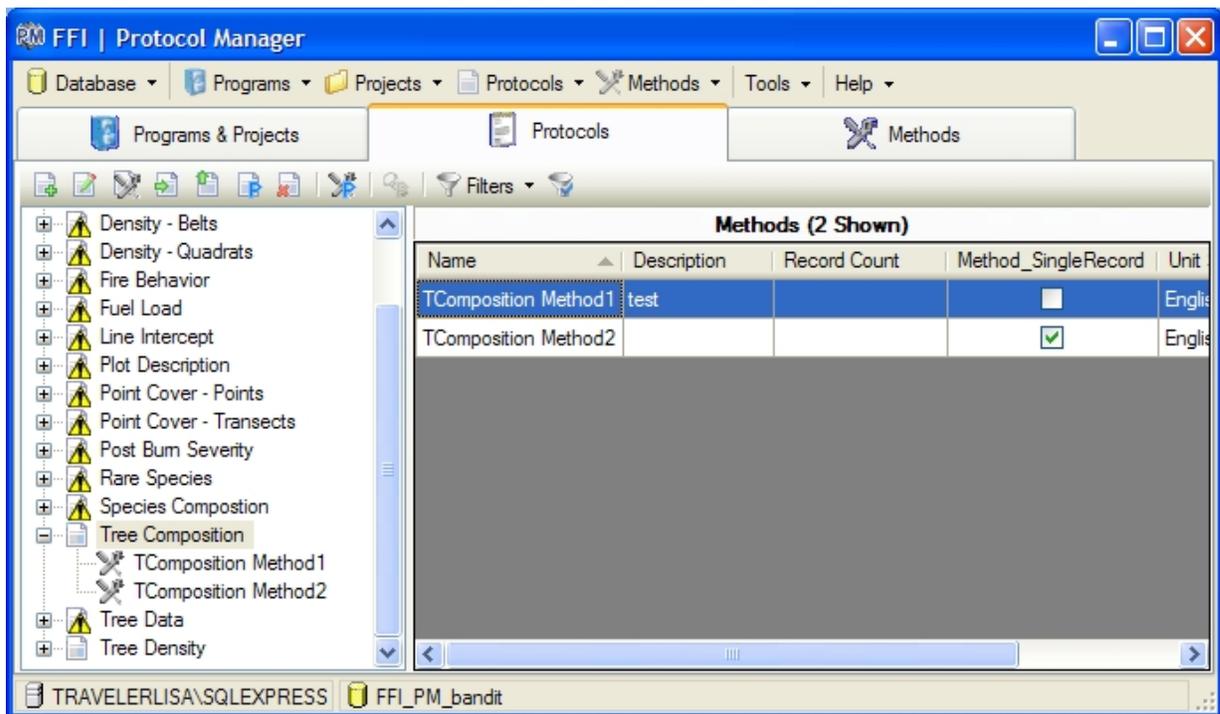
1. Highlight the protocol in the **Protocols** view.
2. Select **Promote** in the pull-down menu or click the **Promote the selected protocol to production** icon in the toolbar.



3. The Version Builder window opens. Enter a notation in the **Description** field and click **Save**.



4. The promoted protocol appears in the **Protocols** listing.



*NOTE: All methods contained within a protocol must be promoted before the protocol can be promoted.*

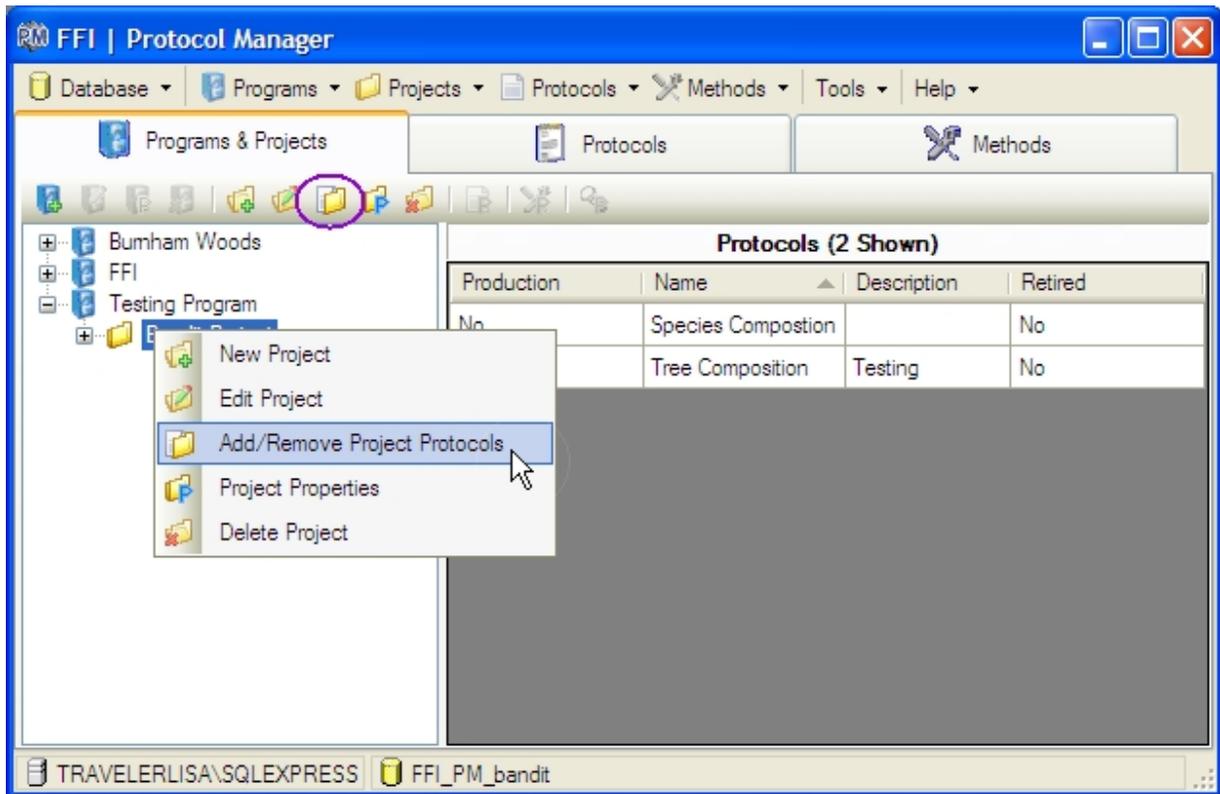
## Assigning a protocol to a project

After you create a new protocol, you can assign it to a project. You can also assign a protocol that exists in one project to another project.

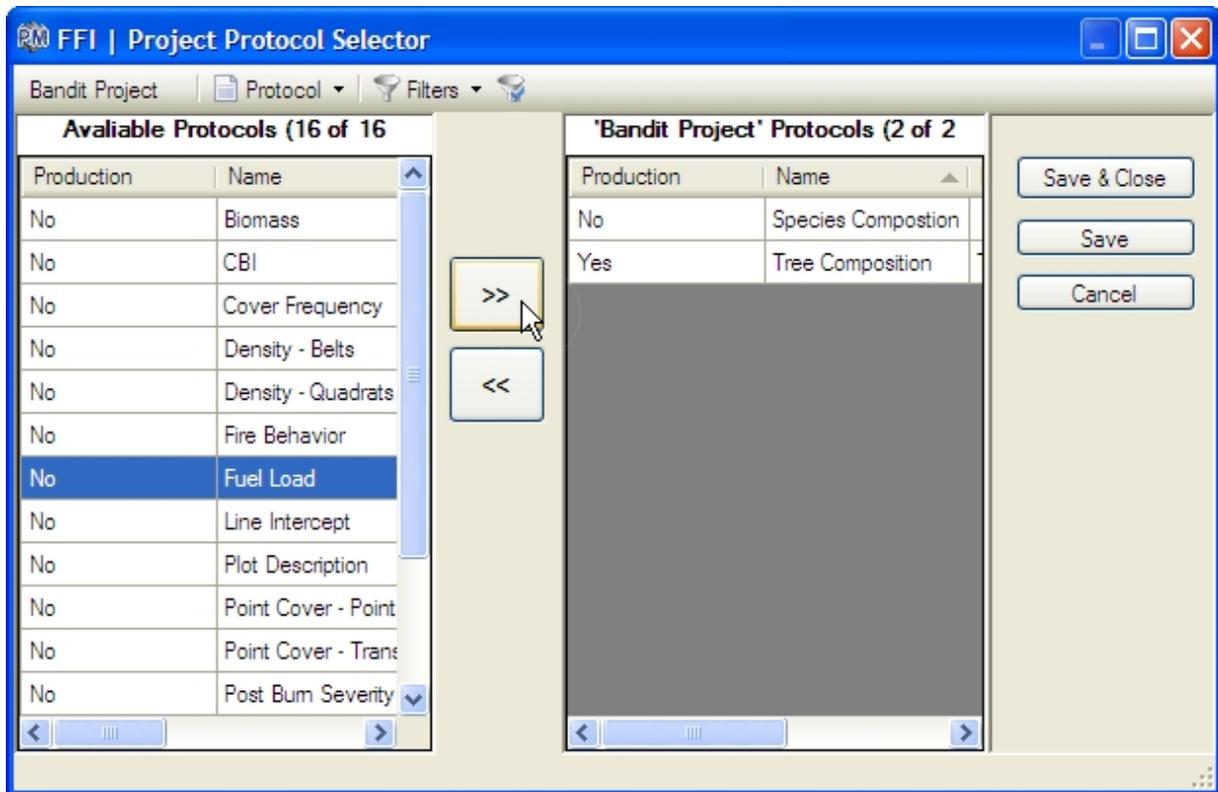
To assign a protocol to a project:

1. In the main **Protocol Manager** window, switch to the **Programs & Projects** view.

2. Right-click the project name and select **Add/Remove Project Protocols**. Or, click the icon in the toolbar.



3. The **Project Protocol Selector** window opens. Double-click the desired protocol (Fuel Load in this example) in the **Available Protocols** box to add it to your project. You can also select the protocol and use the right arrow to shift it to the project.



4. Click **Save & Close**.

After you save and close, the protocol *Fuel Load* is assigned to the Bandit project.

## Additional protocol functions

This section addresses additional functions that are accessible from the **Protocols** pull-down menu while in the **Protocols** tab.

### Deleting a protocol

Only protocols that do not have assigned methods can be deleted. To delete a protocol:

1. Right-click the protocol in the tree view and select **Delete**.
2. If the protocol is eligible for deletion, you will be asked to confirm the deletion. In the confirmation window, click **OK**.

### Duplicating a protocol

To duplicate a protocol:

1. Right-click the protocol name in the tree view and select **Duplicate**.
2. Assign a name for the new protocol in the **Protocol Name** box and click **OK**.

## Viewing protocol properties

To view the properties that are assigned to a protocol:

1. Right-click the protocol name in the tree view and select **Protocol Properties**.
2. Review the properties in the **Protocol Properties** window and close the window when done.

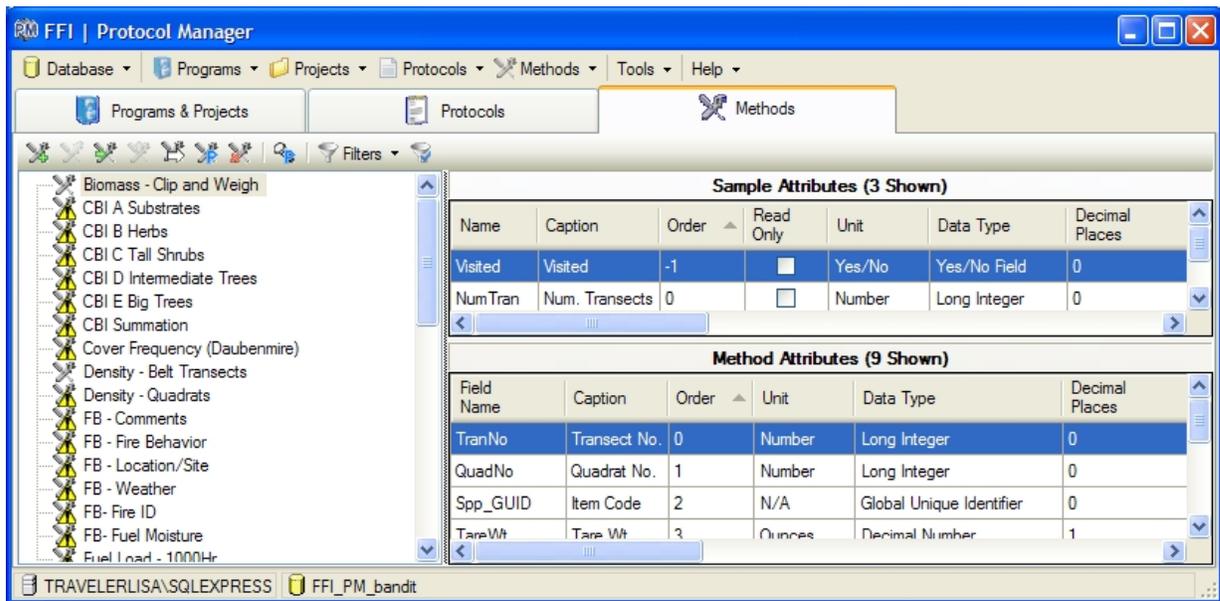
*NOTE: You cannot modify properties in this window.*

# Working with methods

*In Protocol Manager, a method is a systematic procedure for collecting, analyzing, or reporting monitoring data consistently over time. Methods can be replicated by others, and they are described in documentation. Methods are first added to Protocol Manager and then assigned to protocols.*

Use the **Methods** pull-down menu while in the **Methods** tab to create, modify, and organize your methods.

*NOTE: The functions available on the pull-down menus correspond to the small icons in the **Methods** toolbar.*



Tips for working with methods:

- o Method attributes and sample attributes are required to follow certain naming conventions for field names. See [Naming conventions](#) for more information.
- o Method text fields, like those for protocols and attributes, can accommodate up to 4,000 characters.
- o A value field can accommodate 100 characters.

The available **Methods** functions are:

- o [Adding a new method.](#)
- o [Editing a method.](#)
- o [Deleting a method.](#)
- o [Duplicating a method.](#)
- o [Exporting a method.](#)
- o [Promoting a method.](#)
- o [Viewing method properties.](#)

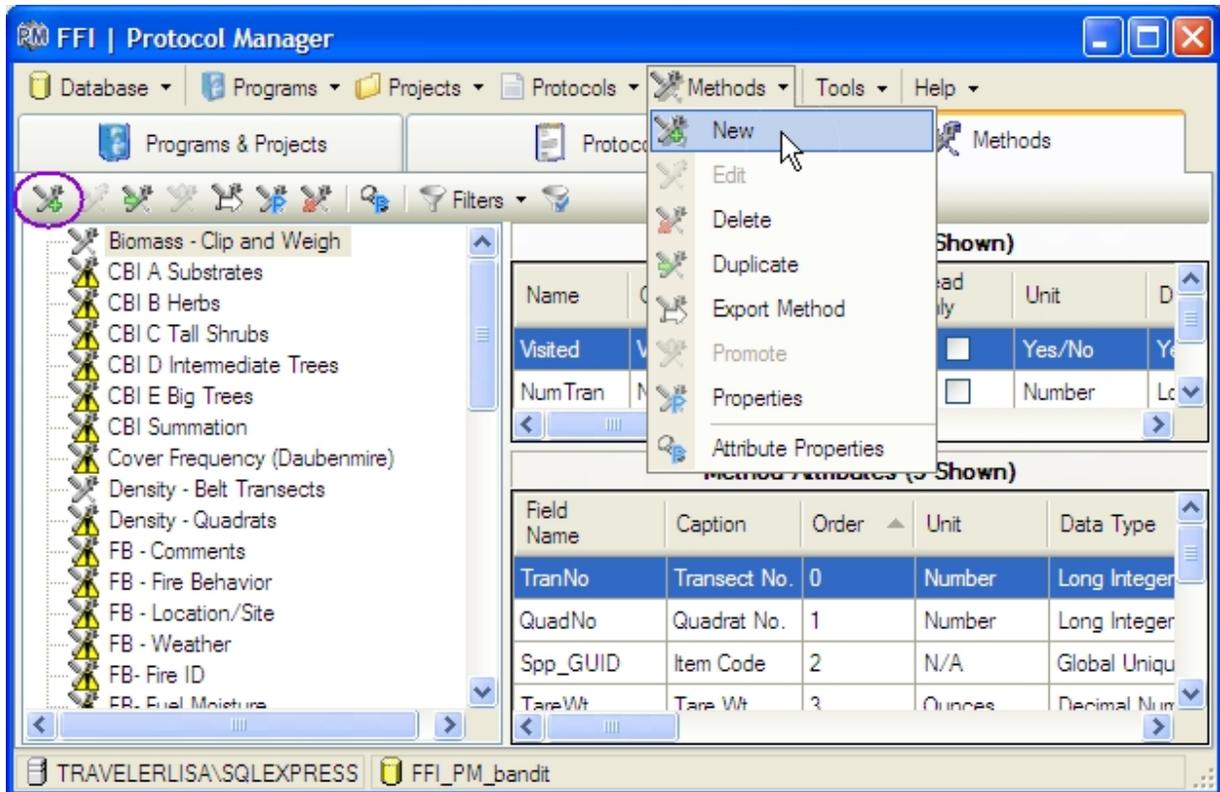
- o [Viewing method attribute properties.](#)

To assign a method to a protocol, see [Assigning a method to a protocol.](#)

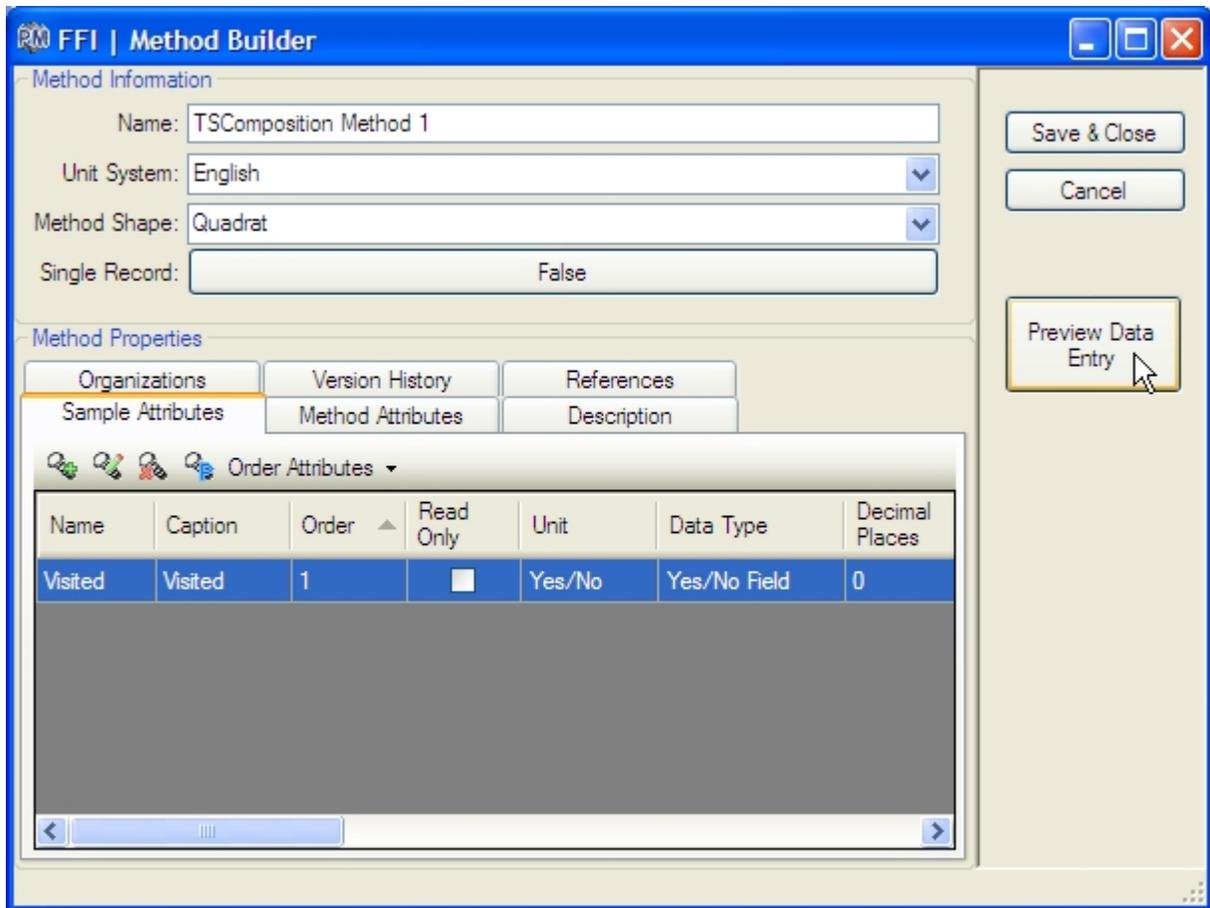
## Adding a new method

To add a new method to a Protocol Manager database:

1. Click **Methods** to switch to the Methods view.
2. Select **New** in the **Methods** pull-down menu, or click the **Add a new method** icon at the left side of the toolbar.



3. The **Method Builder** window opens. Follow the steps below to describe the new method.



- Name.** Enter a name for the new method. In this example, the new method is *TSComposition Method1*.
- Specify the **Unit System**. Choices are metric, English, or mixed.
- Specify the **Method Shape**. This is a simple geometric description of the sample area on the ground.
- Single Record.** This tells FFI how many records can be added. **True** limits record entry to a single entry and results in a single record, vertical column, entry screen for data capture. Set this to **True** for methods in which you will be creating only one method attribute record in the database. As an example, tallying particles in three size classes yields one record with three fields, rather than three records. Another example is the **Plot Description** method, where a number of single observations are recorded for a macro plot.

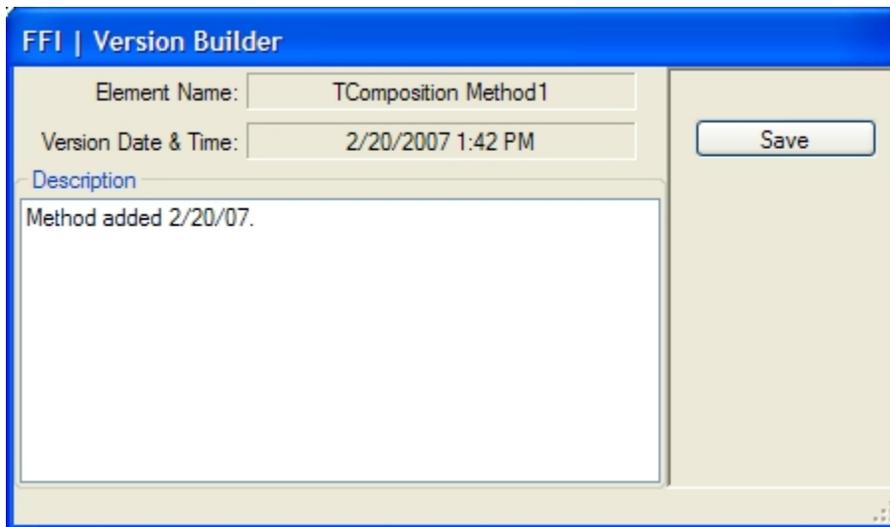
*NOTE: If you select **False**, meaning multiple records can be added, Protocol Manager will add an attribute called **Index**, which is not editable. Disregard it. If you select **True**, the Index attribute does not appear.*

Next, enter information into the **Method Properties** tabs.

[continued](#)

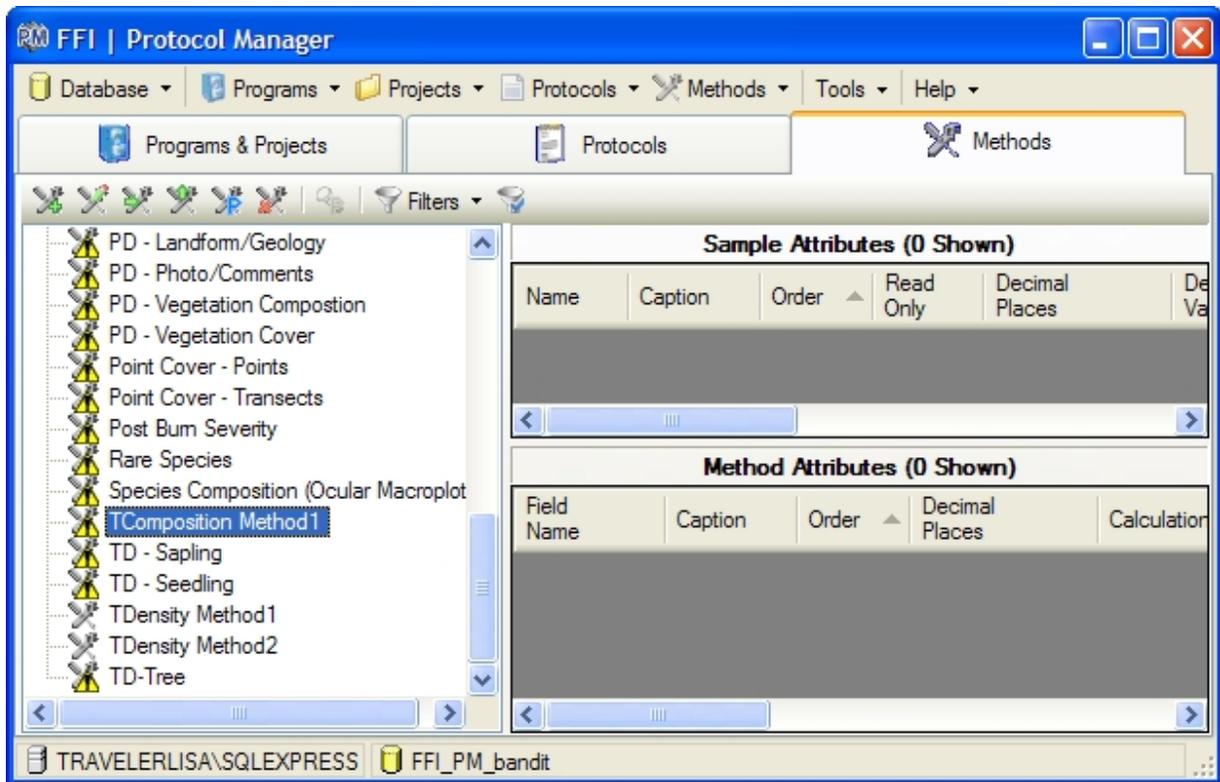
## Adding a new method (continued)

5. Add supplemental information describing the method using the **Method Properties** tabs.
  - a. **Sample Attributes** and **Method Attributes**: Incorporate sample and method attribute information into the new method. See [Adding attributes](#) for detailed information.
  - b. **Organizations**: Add information about the organization to which the method or protocol is assigned. Organizations provide a way to categorize and filter methods and protocols based on the methods a protocol contains. See [Managing organizations](#) and [Filtering methods and protocols](#) for more information.
  - c. **Description**: Add a brief written description of the method. The **Description** text field can accommodate up to 400,000 characters. You can cut and paste text into these fields.
  - d. **References**: Attach technical references to substantiate the method. References that are constructed using the **Reference Manager** [in the Tools](#) pull-down menu can be directly assigned to the method through the **References** tab.
  - e. **Version History**: Protocol Manager automatically assigns a version stamp when a method is created and each time that it is updated.
6. Click **Save & Close** when finished.
7. The **Version Builder** window opens. Enter a brief description and click **Save**.



8. TComposition Method1 is now included in the **Methods** list.

*NOTE: The yellow triangle shows that TComposition Method1 is a Development method.*



*NOTE: The new method is not assigned to a protocol at this point. Once you have assigned the method to a protocol, it will appear in the Protocols tab.*

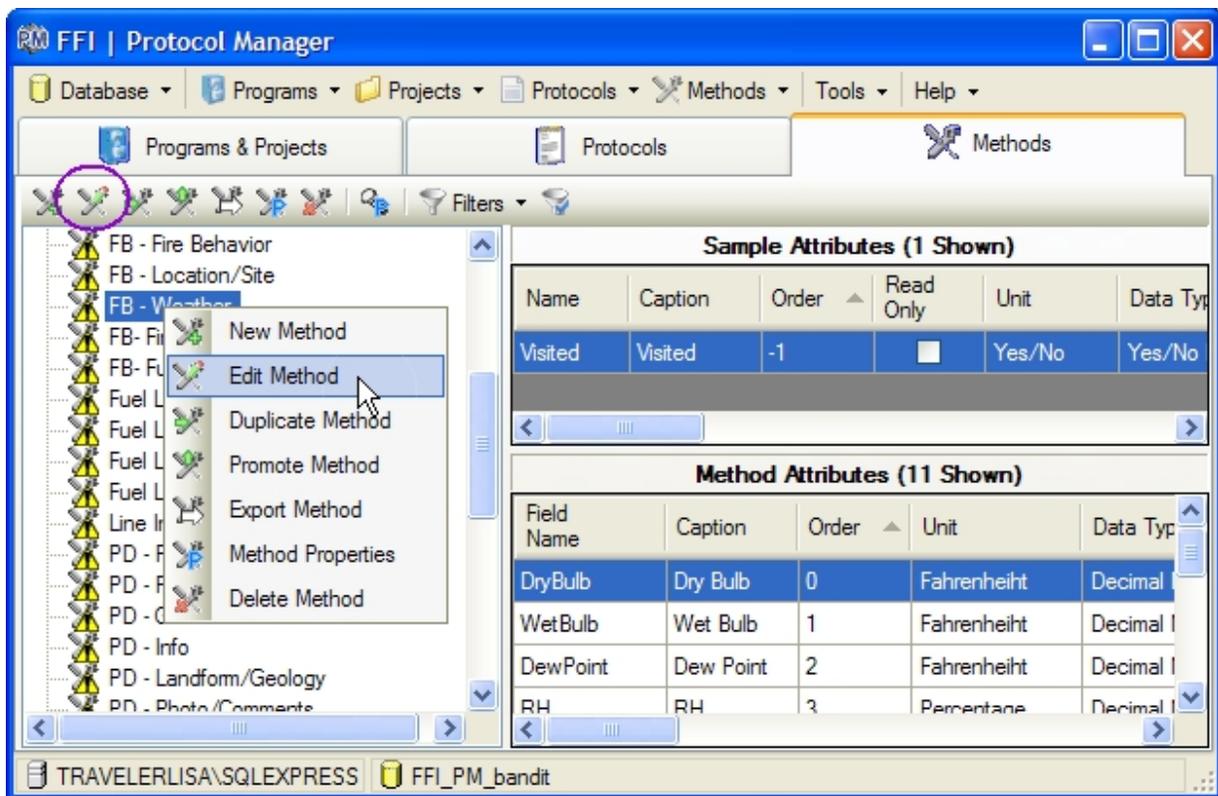
See [Assigning a method to a protocol](#).

## Editing methods

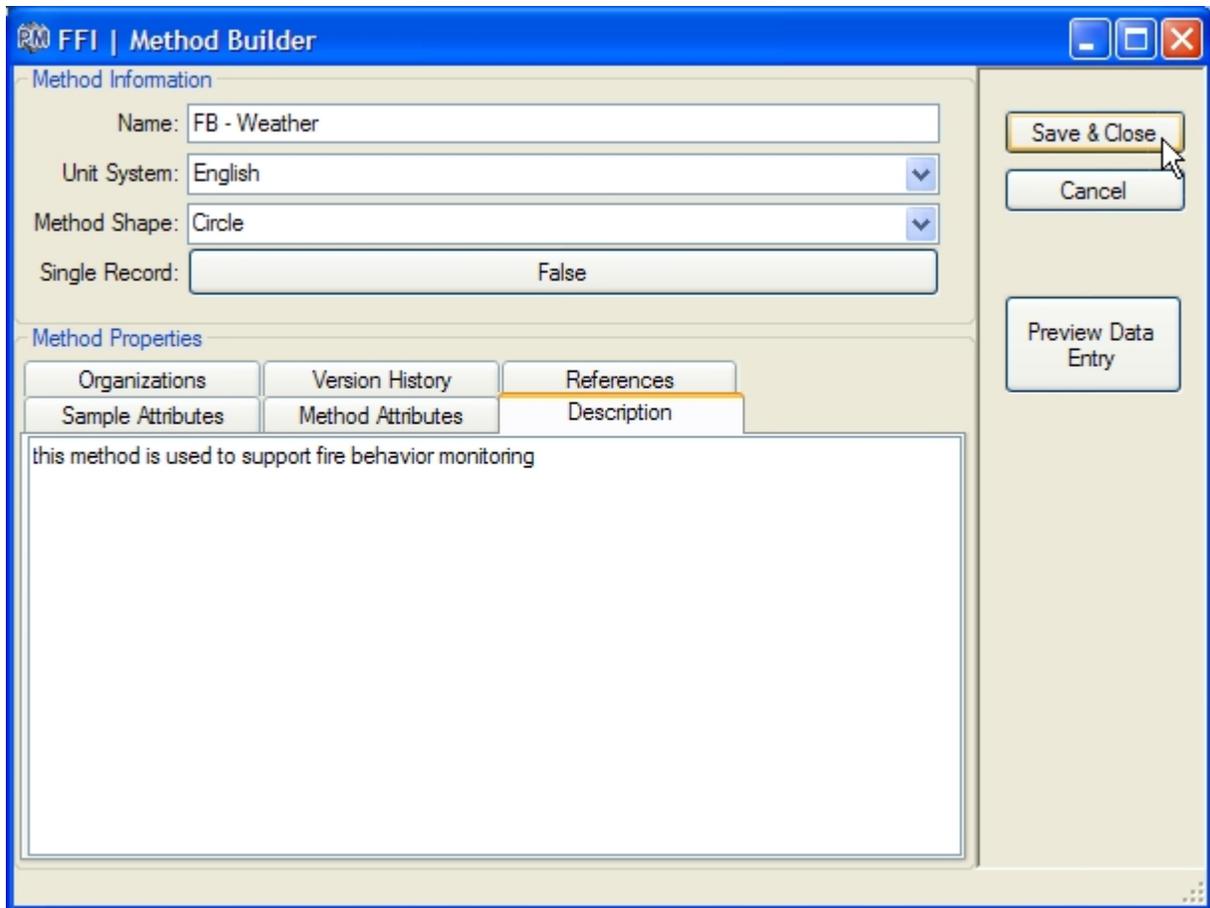
Methods that are still in Development can be edited.

*NOTE: See [Development and Production status](#) for further information.*

1. Right-click the name of the method in the **Methods** view and select **Edit Method**, or click the **Edit the selected method** icon at the left side of the toolbar.



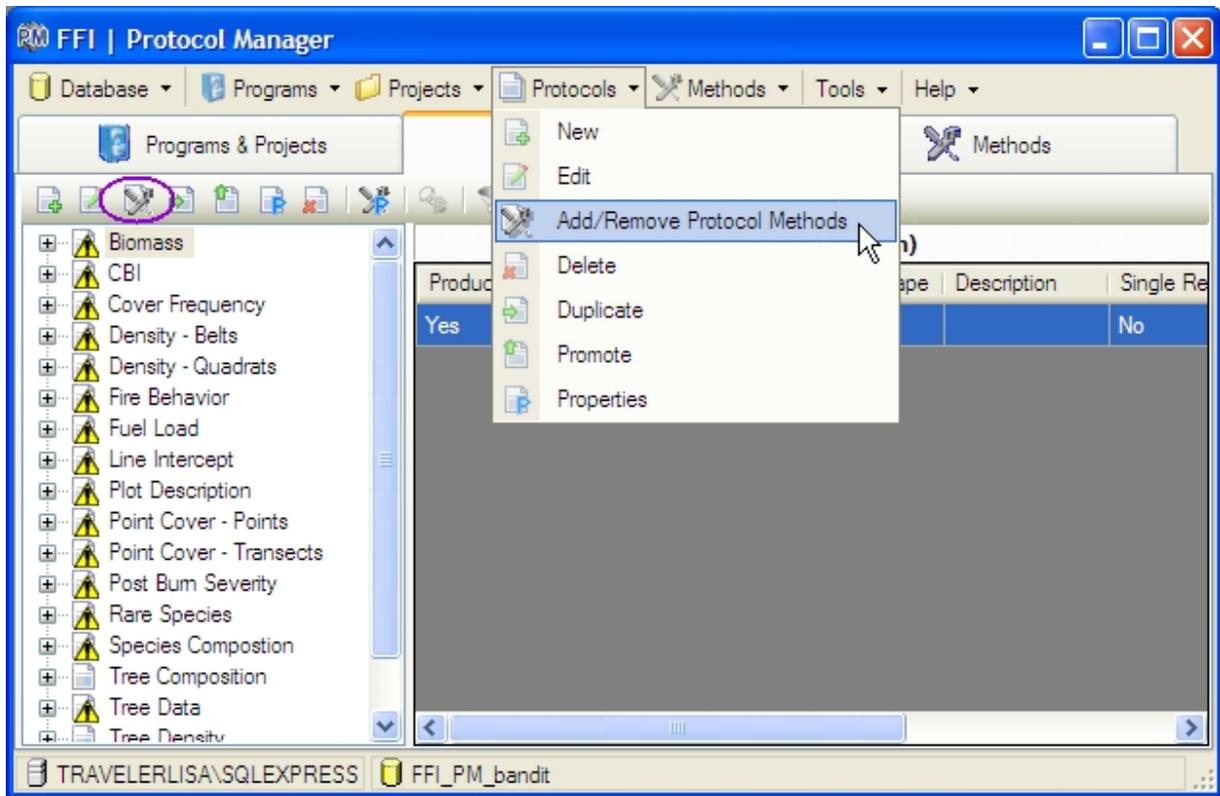
2. The **Method Builder** window opens. Make the necessary edits or text additions and click **Save & Close**.



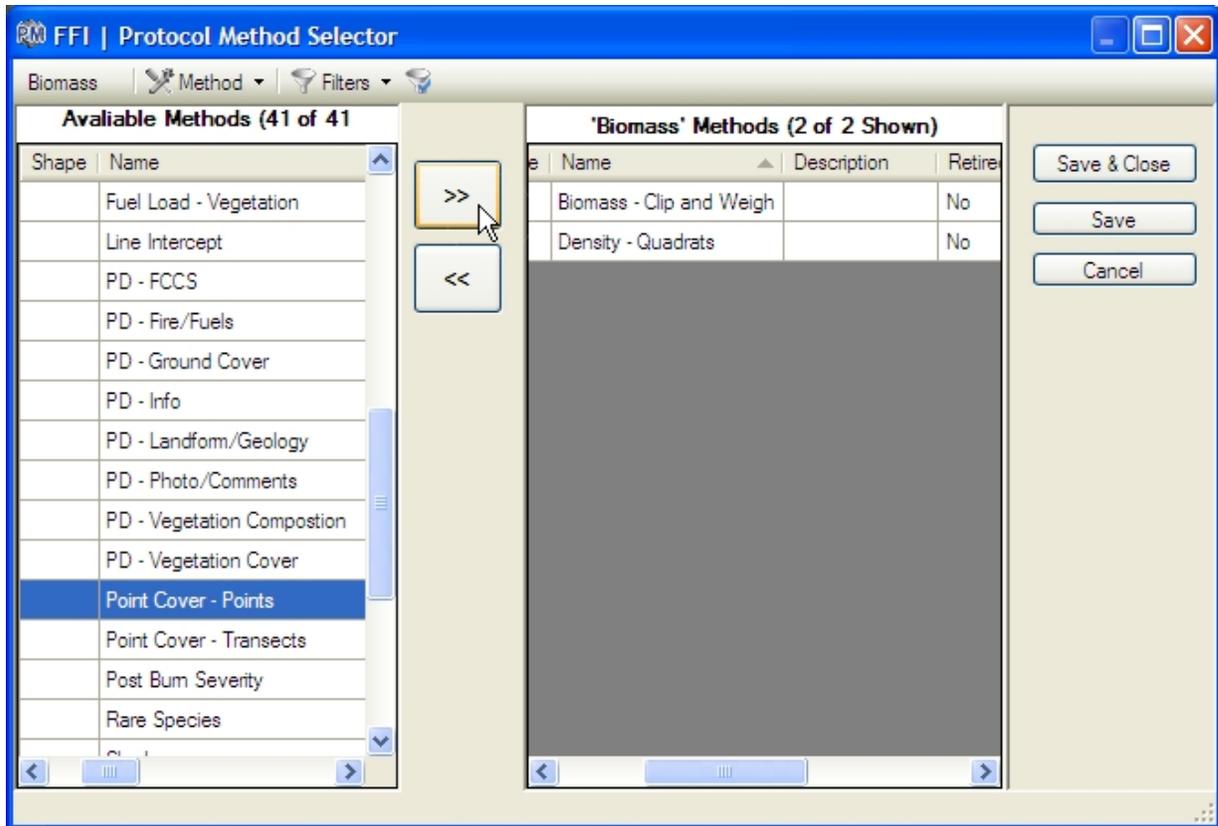
## Assigning a method to a protocol

To assign a method to a protocol in Protocol Manager:

1. Click **Protocols** to switch to the **Protocols** view.
2. Select the appropriate protocol in the displayed listing. Here, the *Species Composition* protocol is selected.
3. Select **Add/Remove Protocol Methods** in the **Protocols** pull-down menu, or click the **Add/Remove Protocol Methods** icon in the toolbar.



4. The **Protocol Method Selector** window opens. Double-click the desired method in the **Available Methods** box to move it into the **Methods** box. In this example, *Point Cover - Points* is being added to the protocol *Biomass*.



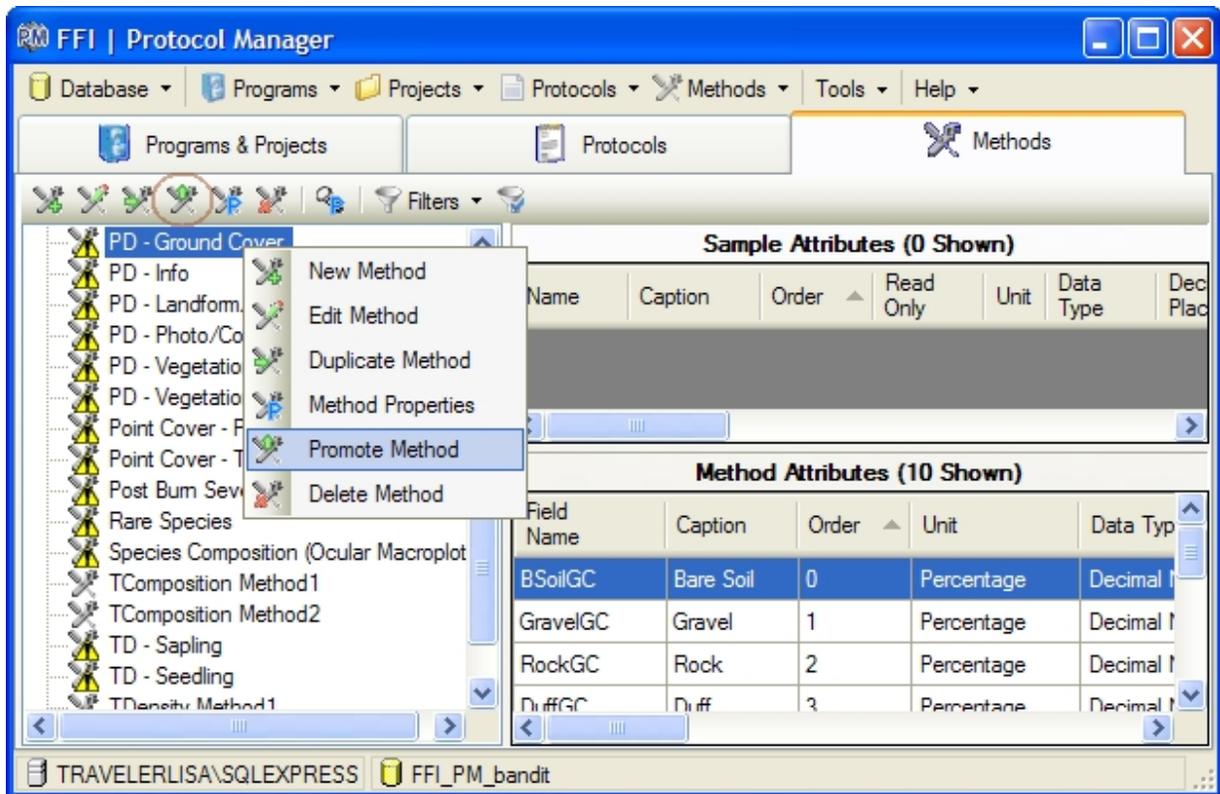
- When you are done, click **Save & Close**.

## Promoting methods

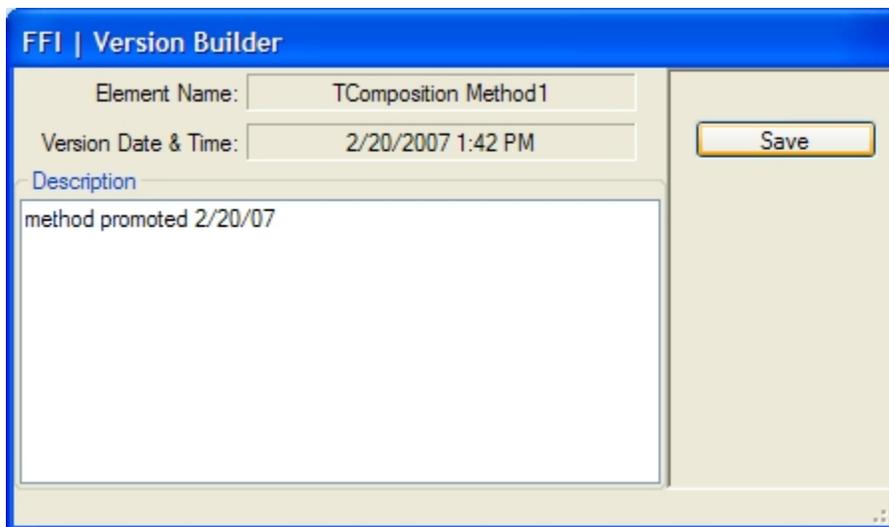
Once a method has been finalized and accepted, it can be promoted from Development to Production. At that point, it can no longer be edited.

*NOTE: See [Development and Production status](#) for further information.*

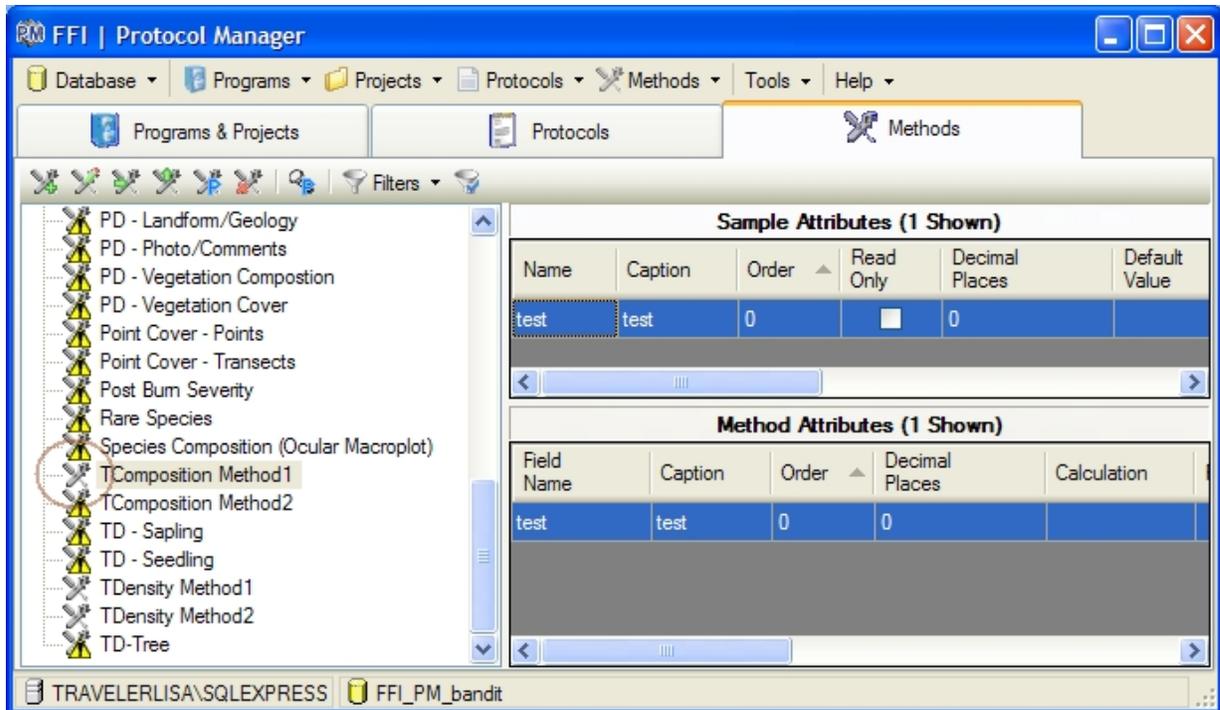
Right-click the name of the method in the **Methods** view and select **Promote Method**, or click the **Promote the selected method** icon at the left side of the toolbar.



1. The **Version Builder** window opens. Enter a notation in the **Description** field and click **Save**.



2. The promoted method appears in the **Methods** listing.



*NOTE: All methods contained within a protocol must be promoted before the protocol can be promoted.*

## Additional method functions

This section addresses additional functions that are accessible from the **Methods** pull-down menu while in the **Methods** tab.

### Exporting a method

You can export a method as a \*.pmd (Protocol Manager data) file so that it can be imported into another Protocol Manager database or into FFI. To export a method:

1. Right-click the method name in the tree view and select **Export**.
2. A **Save As** window opens. Assign a name and file location for the method to be exported and click **Save**.

### Deleting a method

Only methods that are not associated with protocols can be deleted. To delete a method:

1. Right-click the method in the tree view and select **Delete**.
2. If the method is eligible for deletion, you will be asked to confirm the deletion. In the confirmation window, click **OK**.

## Duplicating a method

To duplicate a method:

1. Right-click the method name in the tree view and select **Duplicate**.
2. Assign a name for the new method in the **Method Name** box and click **OK**.

## Viewing method properties

To view the properties that are assigned to a method:

1. Right-click the method name in the tree view and select **Method Properties**.
2. Review the properties in the **Method Properties** window and close the window when done.

*NOTE: You cannot modify properties in this window.*

## Viewing method attribute properties

To view the properties that are assigned to an attribute:

*NOTE: You cannot modify attribute properties in this window.*

1. Click the Methods pull-down menu in the Methods tab and select **Attribute Properties**.
2. Review the properties in the **Attribute Properties** window and close the window when done.

## Adding attributes

You can add method attributes and sample attributes to any method that is still in **Development**. Once a method has been promoted to **Production**, it can no longer be modified.

- o Sample attributes describe the conditions associated with a particular sampling event, such as date and time, plot and sample size, weather, names of sampling team members. These attributes are generally collected once per sampling event. See [Adding sample attributes](#).
- o Method attributes describe the data being collected and analyzed, such as species count, tree size, tree density, fuels, and diversity. These attributes are generally collected more than once per sampling event. See [Adding method attributes](#).

*NOTE: See [Data field definitions](#) for additional information on method and sample attributes.*

Protocol Manager uses the same general procedure to add both method and sample attributes, although the attribute data entry forms differ.

Tips:

- o Field names for method and sample attributes must follow naming standards. See [Naming conventions](#) for more information. Captions do not need to follow the requirements for field names.
- o Attribute text fields, like those for protocols and methods, can accommodate up to 4,000 characters.
- o A value field can accommodate 100 characters.
- o The term *Precision*, in the **Attribute Builder > Value Definition** tab, is used to indicate the number of decimal places that the record can accommodate.
- o The term *Limit Codes to List*, in the **Attribute Builder > Value Definition** tab, if **True**, means that the user can only select from the codes that were defined on the **Method Attribute Builder > Codes** tab, when doing data entry.
- o The term *Roll-Down*, in the **Method Attribute Builder > Value Definition** tab, if **True**, means that the value from the previous row 'rolls down' to be the default value for the new row.
- o The term *Visible*, in the **Attribute Builder > Value Definition** tab, sets whether or not the user will see the attribute field in FFI.

## Naming conventions

In Protocol Manager, the field names for method attributes and sample attributes should be brief and must follow certain naming requirements to avoid conflicting with SQL Server standards. Field names can use:

- o Letters, either upper or lower case.
- o Numerals.
- o Underscores \_.

However, as you notice in the screen shot below, these requirements do not apply to captions, which can use more descriptive and meaningful terms. For example, the caption for the field name *OS\_Mean* is *Overstory Mean*. When you click **Preview Data Entry** to see the data entry form for the method, you see that the data entry field is labeled with the caption, rather than the field name.

**FFI | Method Builder**

Method Information

Name:

Unit System:

Method Shape:

Single Record:

Method Properties

Organizations | Version History | References | Sample Attributes | **Method Attributes** | Description

Order Attributes

| Field Name     | Caption               | Order    | Unit       | Data Type             | Decimal Places |
|----------------|-----------------------|----------|------------|-----------------------|----------------|
| US_Mean        | Understory Mean       | 2        | N/A        | Decimal Number        | 2              |
| OS_Sum         | Overstory Sum         | 3        | N/A        | Decimal Number        | 2              |
| OS_NRated      | Overstory NRated      | 4        | N/A        | Long Integer          |                |
| <b>OS_Mean</b> | <b>Overstory Mean</b> | <b>5</b> | <b>N/A</b> | <b>Decimal Number</b> | <b>2</b>       |
| PT_Sum         | Plot Total Sum        | 6        | N/A        | Decimal Number        | 2              |
| PT_NRated      | Plot Total NRated     | 7        | N/A        | Long Integer          |                |

Buttons: Save & Close, Cancel, Save, Preview Data Entry

**Data Entry Preview**

Delete Visit

Visited:

Understory NRated:

Understory Mean:

Overstory Sum:

Overstory NRated:

**Overstory Mean:**

Plot Total Sum:

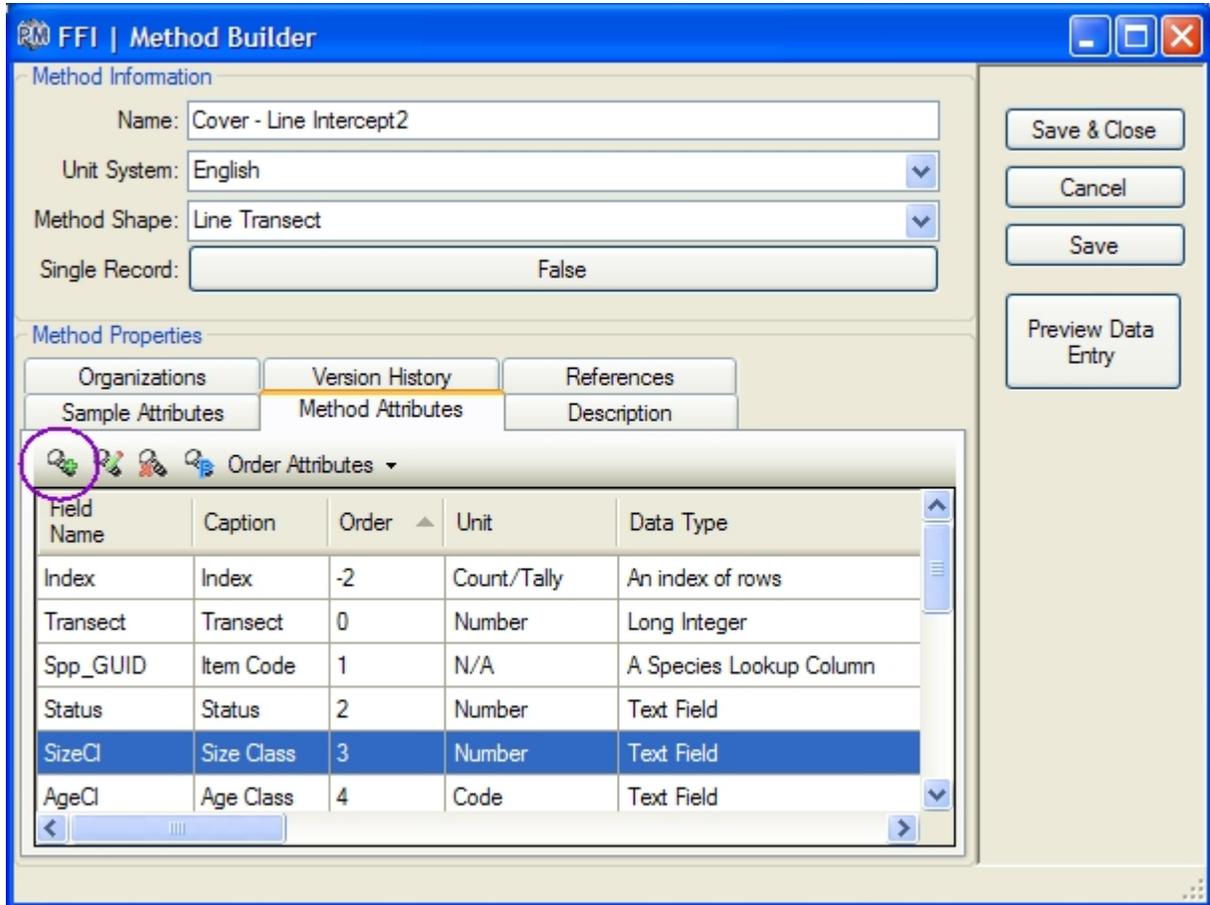
Plot Total NRated:

## Adding method attributes

*NOTE: See [Data field definitions](#) for additional information on method and sample attributes.*

To add method attributes:

1. Click the **Methods** tab and highlight the desired method in the tree view.
2. Right-click on the method name and select **Edit Method**. The **Method Builder** window opens. In this example, the method is *Cover - Line Intercept2*.



3. Click the **Method Attributes** tab.
4. Click the **Add Attribute** icon (circled in the example above). The **Method Attribute Builder** window opens. This window contains three screens, as listed here. Examples of each screen from a working protocol database are shown below for illustration.

*NOTE: Field names for method attributes must follow naming standards. See [Naming conventions](#) for more information. Captions do not need to follow the requirements for field names.*

- o **Value Definition**, which requests specific value data for the attribute, such as units, level of precision, values.

- o **Codes**, where you can enter codes, such as species or height codes, that will be used in the data entry forms for the method.
- o **Description**, an open text field with a 4,000-character maximum, that can be used to enter a brief description of the method attribute.

FFI | Method Attribute Builder

Method Attribute Info

Name:

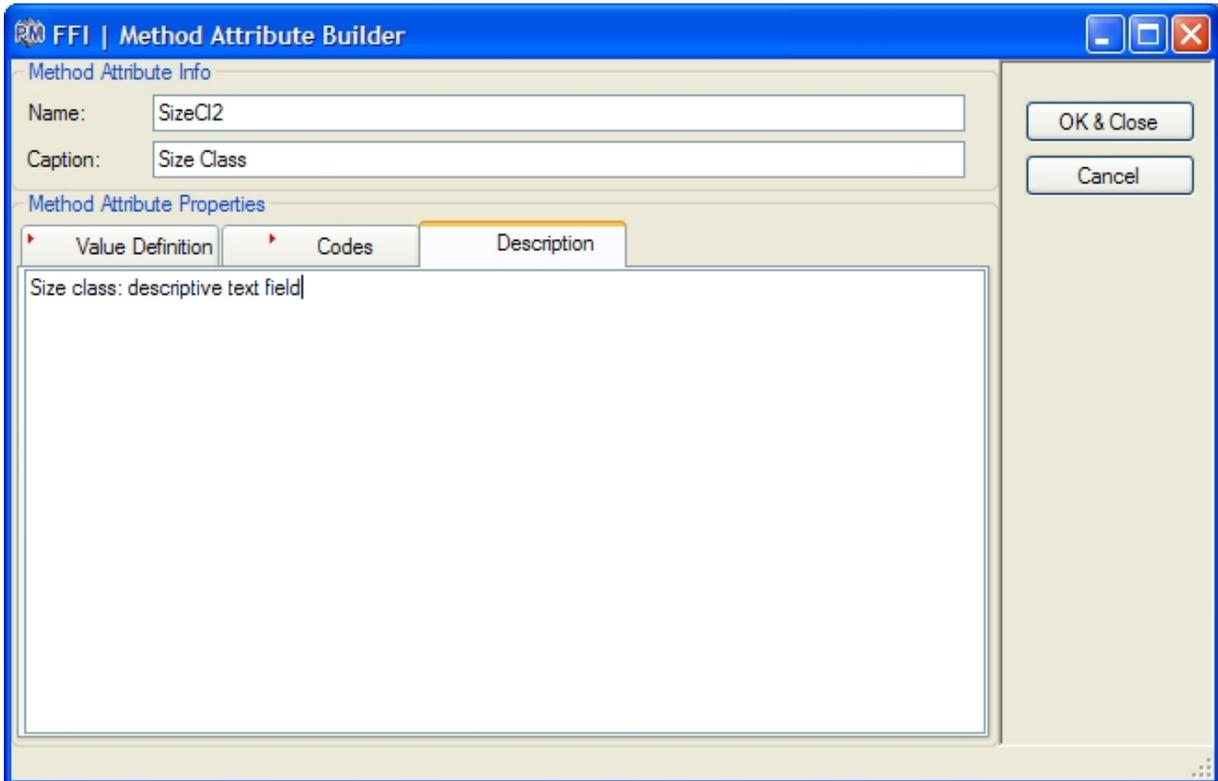
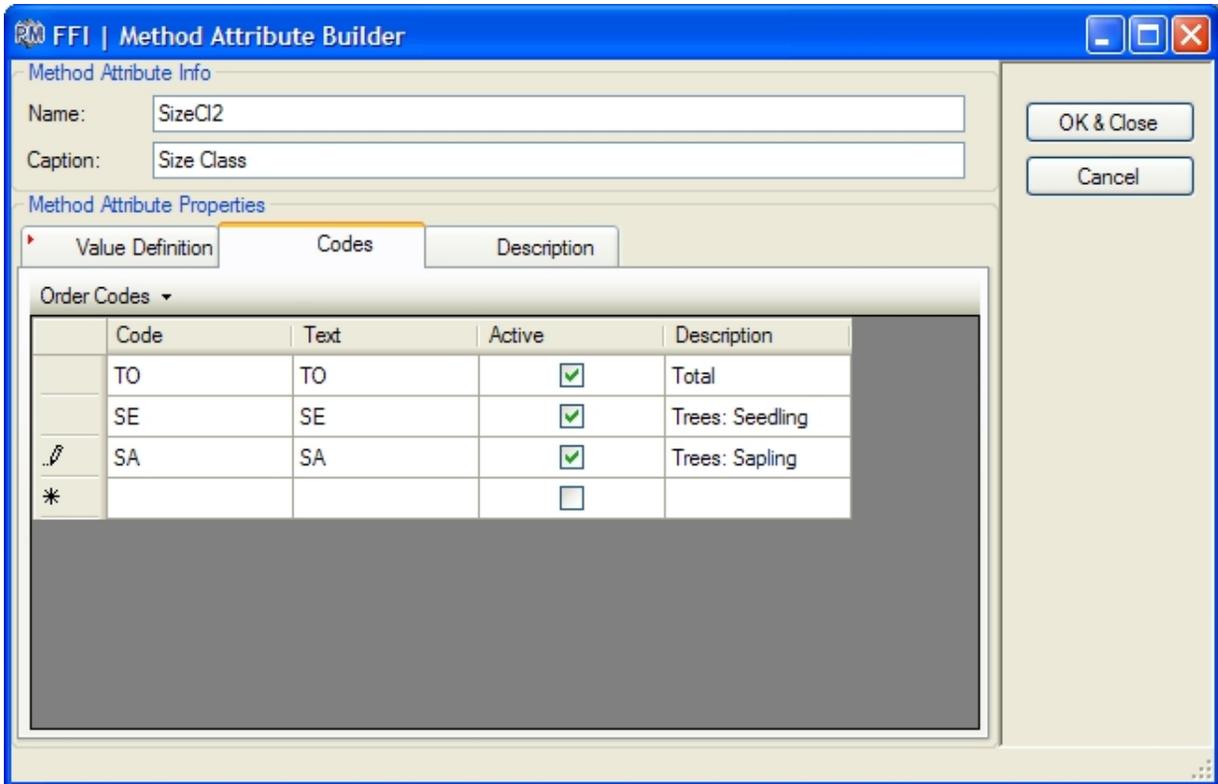
Caption:

Method Attribute Properties

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

OK & Close

Cancel



5. Enter method attribute data as required.
6. When you are finished, click **OK & Close**.

7. If you wish, click the **Preview Data Entry** button in the main **Method Attribute Builder** window to see a representative view of the data entry form that was created.

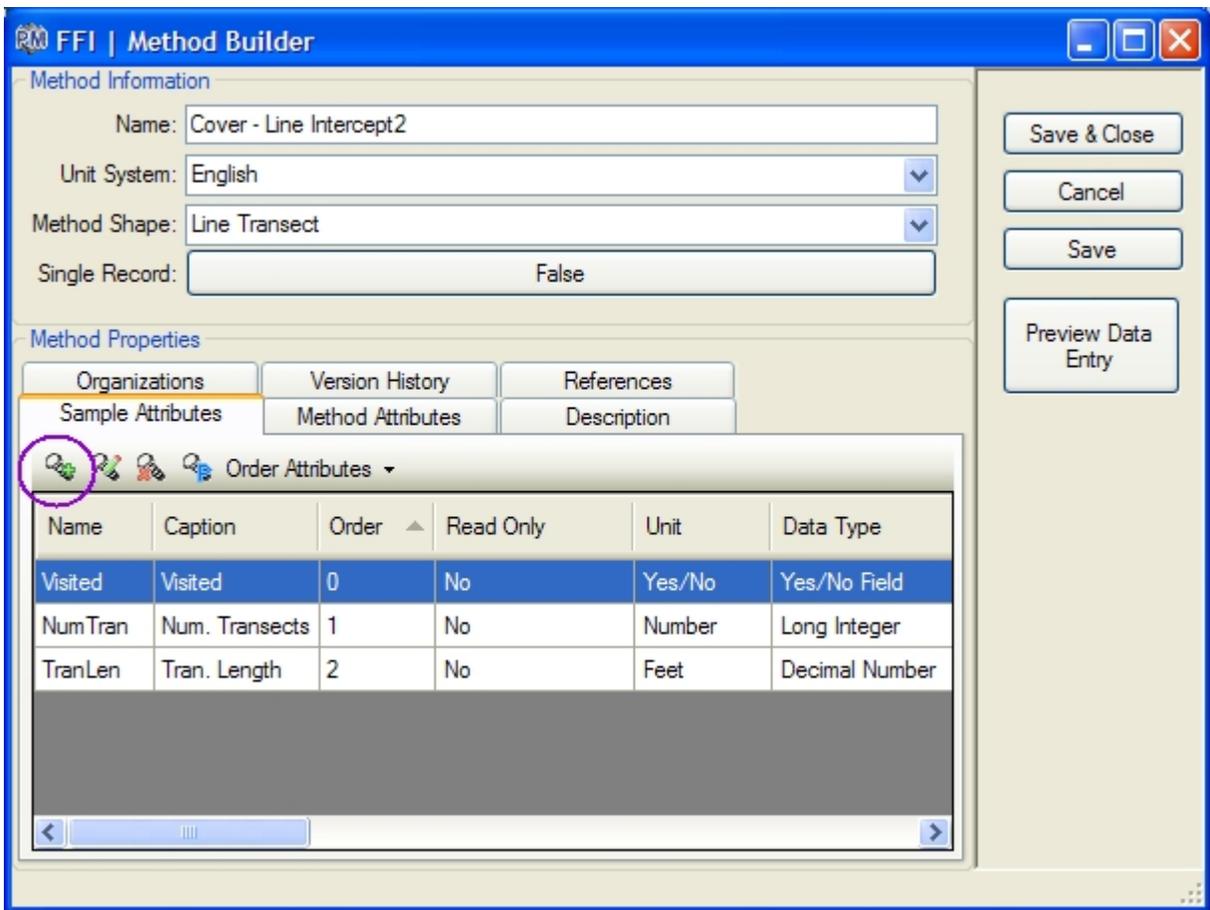
See also: [Editing attributes](#)

## Adding sample attributes

*NOTE: See [Data field definitions](#) for additional information on method and sample attributes.*

To add sample attributes:

1. Click the **Methods** tab and highlight the desired method in the tree view.
2. Right-click on the method name and select **Edit Method**. The **Method Builder** window opens. In this example, the method is *Cover - Line Intercept2*.



3. Click the **Sample Attributes** tab.
4. Click the **Add Attribute** icon (circled in the example above). The **Sample Attribute Builder** window opens. This window contains three screens, as listed here. Examples of each screen from a working protocol database are shown below for illustration.

*NOTE: Field names for sample attributes must follow naming standards. See [Naming conventions](#) for more information. Captions do not need to follow the requirements for field names.*

- o **Value Definition**, which requests specific value data for the attribute, such as units, level of precision, values.
- o A **Codes** field, in which you can enter codes, such as numbers or units of measure, that will be used in the data entry forms for the method.
- o **Description**, which is an open text field with a 4,000-character maximum.

**Sample Attribute Builder**

Sample Attribute Info

Name:

Caption:

Sample Attribute Properties

Value Definition | Codes | Description

|                      |                |
|----------------------|----------------|
| Unit:                | Feet           |
| Data Type:           | Decimal Number |
| Precision:           | 1              |
| Read Only:           | False          |
| Limit Codes to List: | True           |
| Default Value:       |                |
| Minimum Value:       | 0              |
| Maximum Value:       |                |
| Value Length:        | 0              |
| Allow Null:          | False          |
| Visible:             | True           |
| Data Level:          | Not Defined    |

OK & Close

Cancel

FFI | Sample Attribute Builder

Sample Attribute Info

Name:

Caption:

Sample Attribute Properties

Value Definition Codes Description

Order Codes ▾

|   | Code | Text | Active                   | Description |
|---|------|------|--------------------------|-------------|
| * |      |      | <input type="checkbox"/> |             |

OK & Close

Cancel

FFI | Sample Attribute Builder

Sample Attribute Info

Name:

Caption:

Sample Attribute Properties

Value Definition Codes Description

Transect length

OK & Close

Cancel

5. Enter sample attribute data as required.
6. When you are finished, click **OK & Close**.
7. If you wish, click the **Preview Data Entry** button in the main **Method Attribute Builder** window to see a representative view of the data entry form that was created.

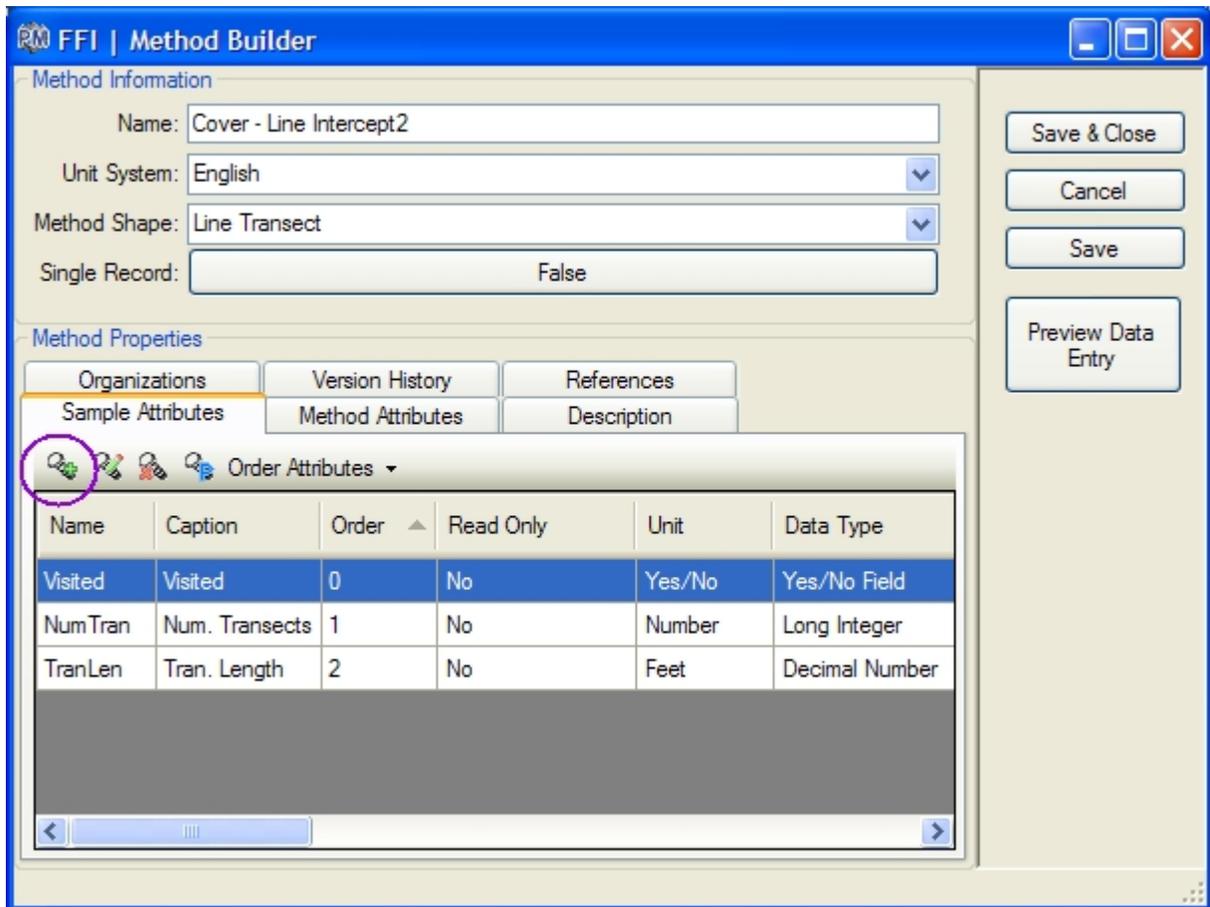
See also: [Editing attributes](#)

## Editing attributes

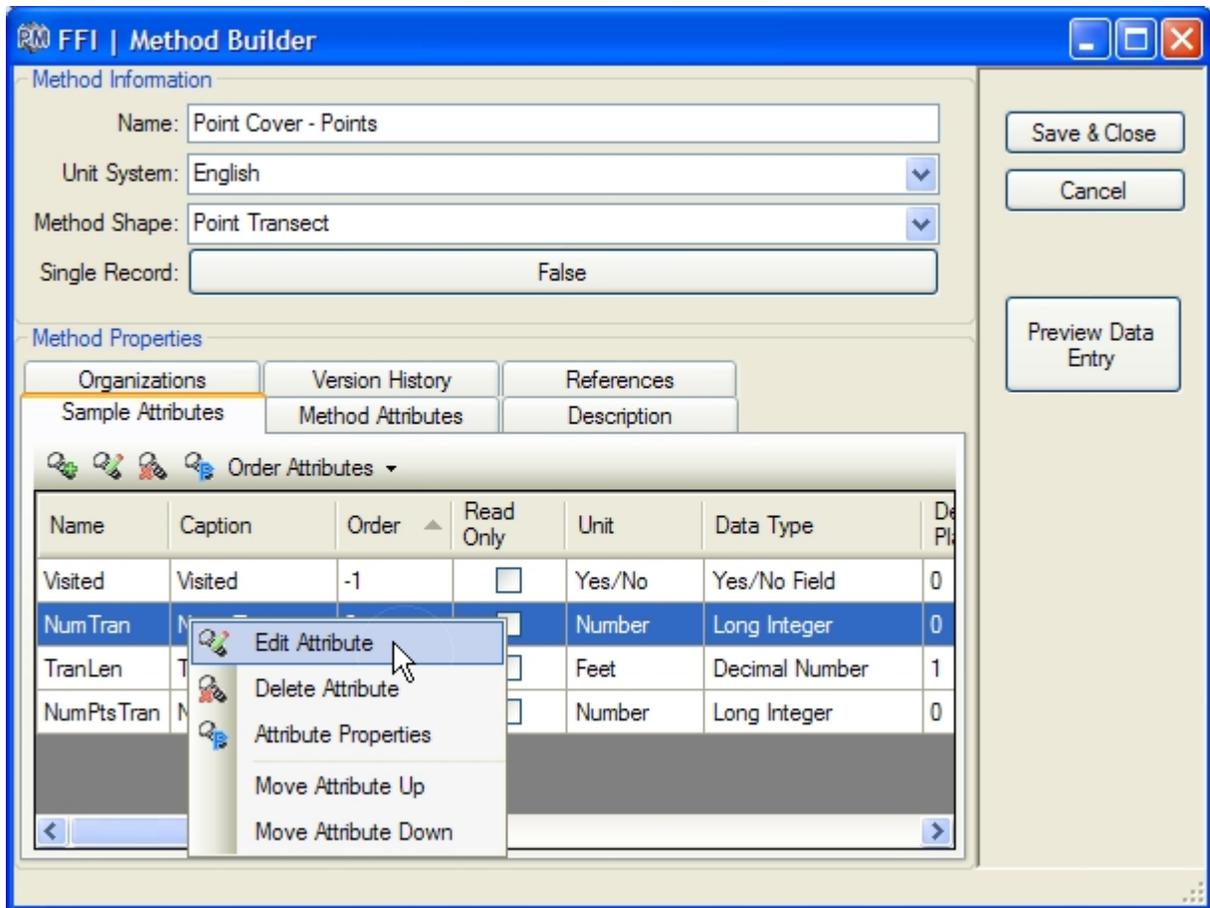
The attributes of a method that is in Development can be edited. Methods that have been promoted to Production cannot be modified.

To edit method or sample attributes for a method:

1. Click the **Methods** tab and highlight the desired method in the displayed listing.
2. Right-click on the method name and select **Edit Method**. The **Method Builder** window opens.
3. The **Method Builder** screen is displayed. Select the **Method Attributes** or **Sample Attributes** tab.



4. Right-click the attribute to be edited and select **Edit Attribute**.

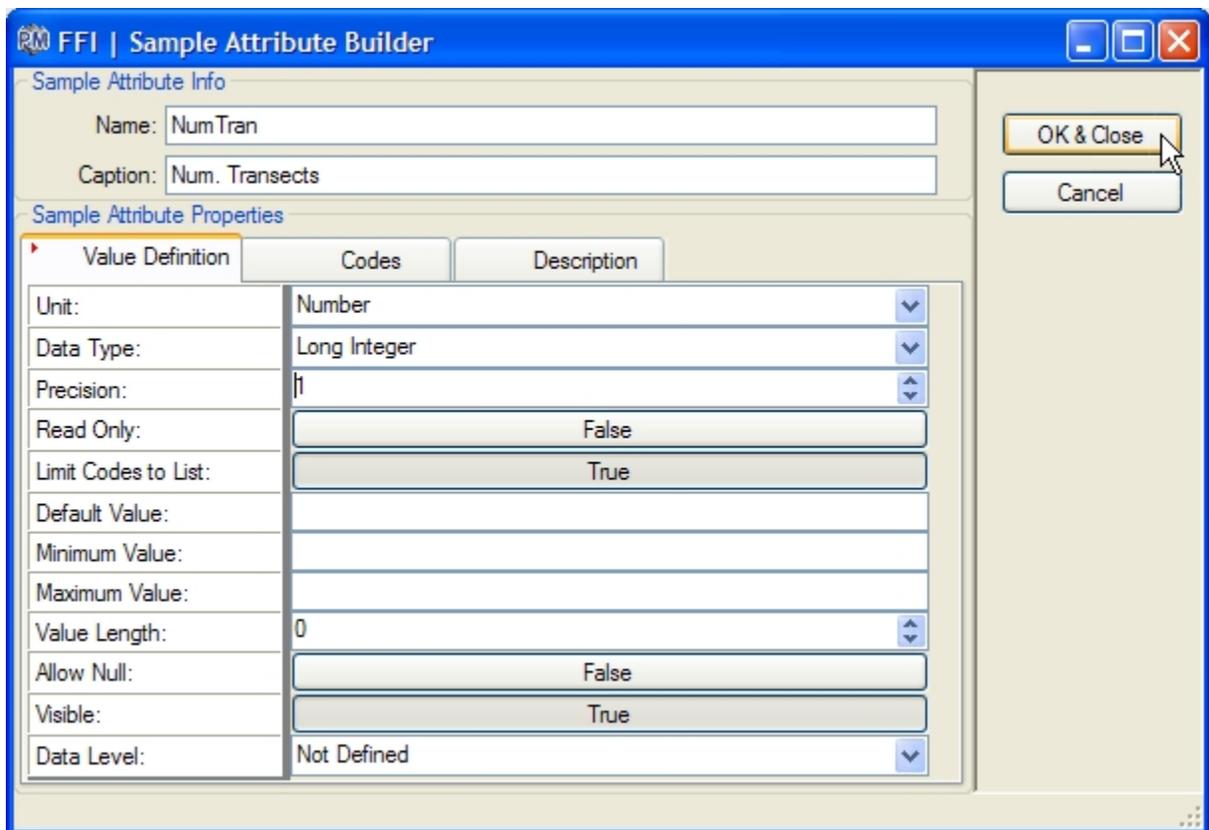


*NOTE: Other icons in this toolbar allow you to add a new attribute, delete an attribute, or view an attribute's properties.*

[continued](#)

## Editing attributes (continued)

5. The **Method Attribute Builder** or **Sample Attribute Builder** window opens, showing the current values for the selected attribute.



6. Modify attribute data as required.
7. When you are finished, click **OK & Close**.

For more information about attributes, see [Adding attributes](#).

# Building Protocol Manager reports

*NOTE: The **Reports** feature was added after the 1.0 release of Protocol Manager and is documented only in this portion of the documentation. Although the main Protocol Manager window has changed to include the new menu button, no existing functionality has changed.*

This section of the Protocol Manager documentation explains how to generate reports about your programs, projects, protocols and methods, and organizations, based on the information and data that were supplied when the record was created or edited. For example, you can create a report describing a particular project unit and the monitoring protocols that the project unit contains. To supplement the report, you can generate a method report, identifying and describing the specific methods attached to the protocols. If you have applied an organization structure to categorize your protocols and methods, you can create organization reports as well.

When you create reports, you can select options about the scope and the level of detail that you wish to see. Three formats are supported for each report: no description, brief description, and complete description. Reports are generated as RTF (rich text format) files and are viewable in Microsoft Word or a text editor. In Word, you can reformat the reports to meet your own requirements.

For detailed information on each of the reports, see:

- o **Program, Project, and Protocol** [report procedure](#) and [sample](#).
- o **Method** [report procedure](#) and [sample](#).
- o **Organization** [report procedure and sample](#).

**TIP:** To build a complete program or project notebook, generate a Program, Project, and Protocols report and open it in Word. Insert page breaks after each protocol, and print the report. Then generate and print a complete Methods report and interleave the methods pages to follow the correct protocols. If appropriate, generate and print an Organizations report and add it at the end of the notebook.

## Program, Project, and Protocol reports

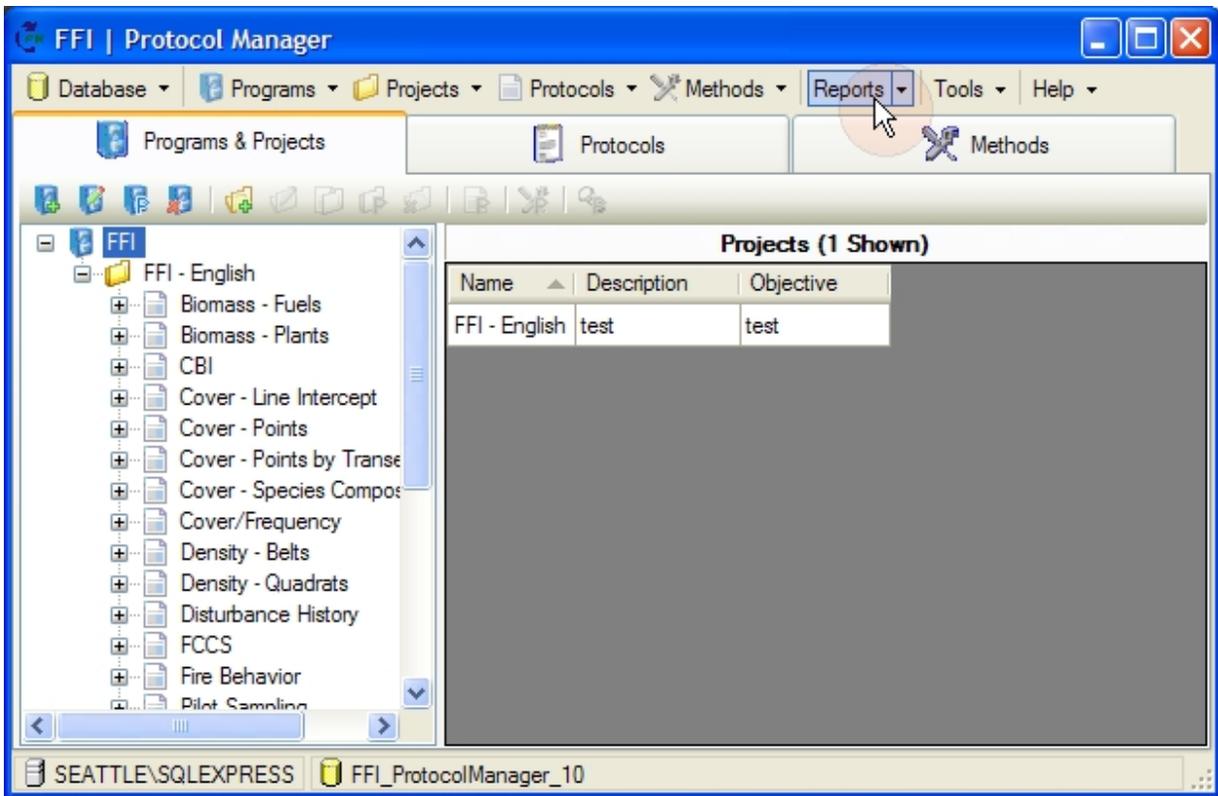
A **Program, Project, or Protocol** report (see sample report) presents details for each selected element. Fields included in these reports include:

- o Program name, contact information, description, and objective.
- o Project name, contact information, description, and objective.
- o Protocol name, contact information, description, version history, and included methods.

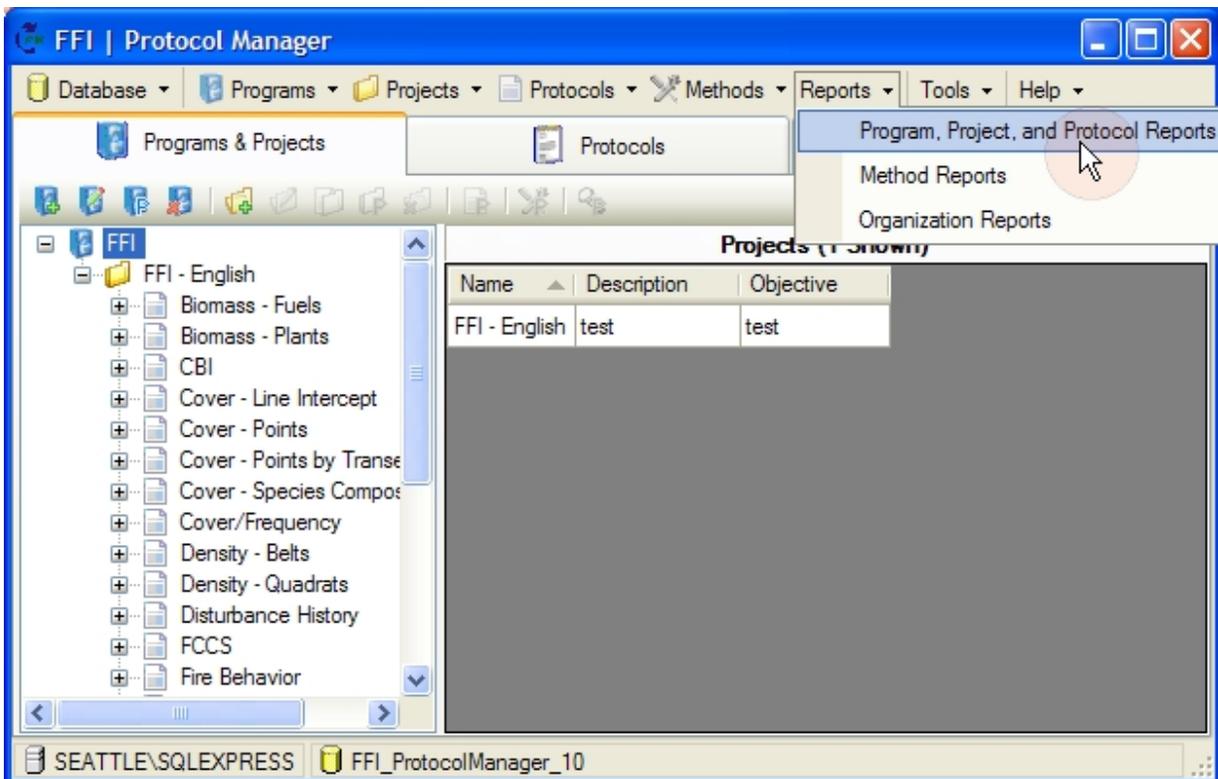
## Generating the report

To generate a **Program, Project, or Protocol** report:

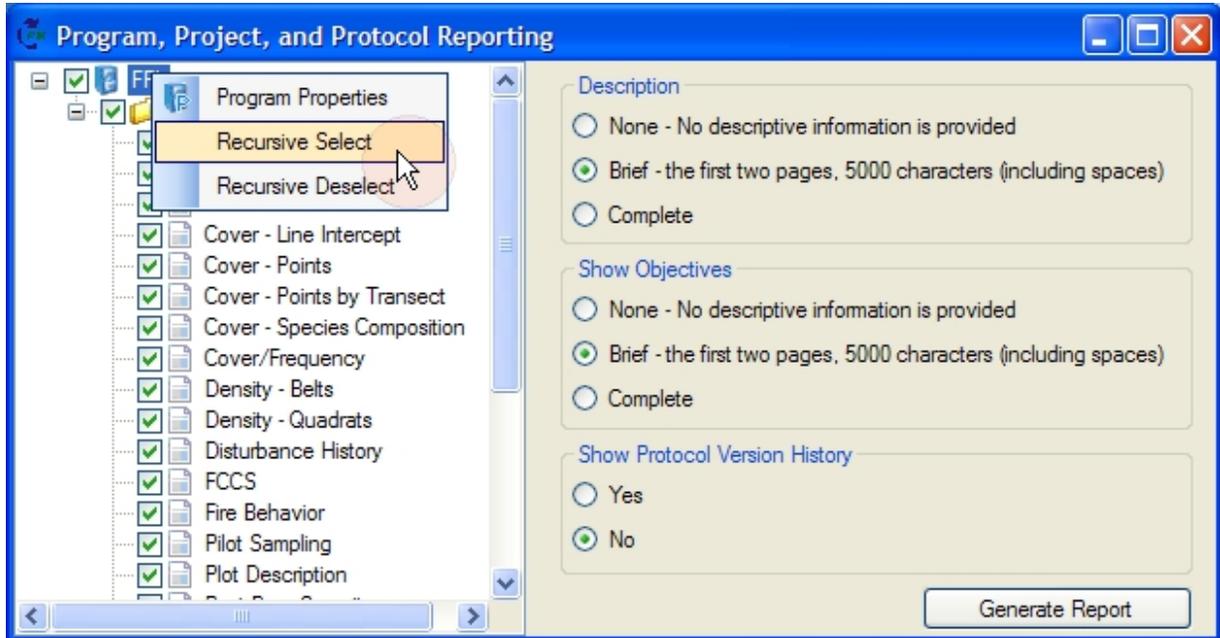
1. Reach the **Reports** menu through the main Protocol Manager toolbar.



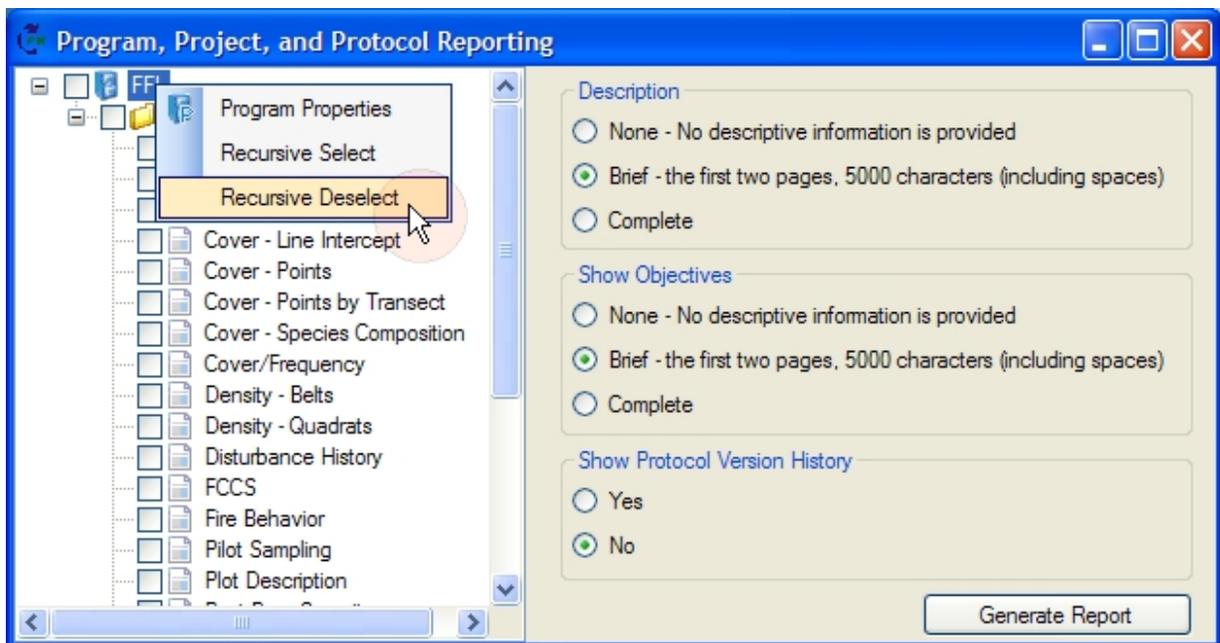
2. Select Program, Project, and Protocol Reports.



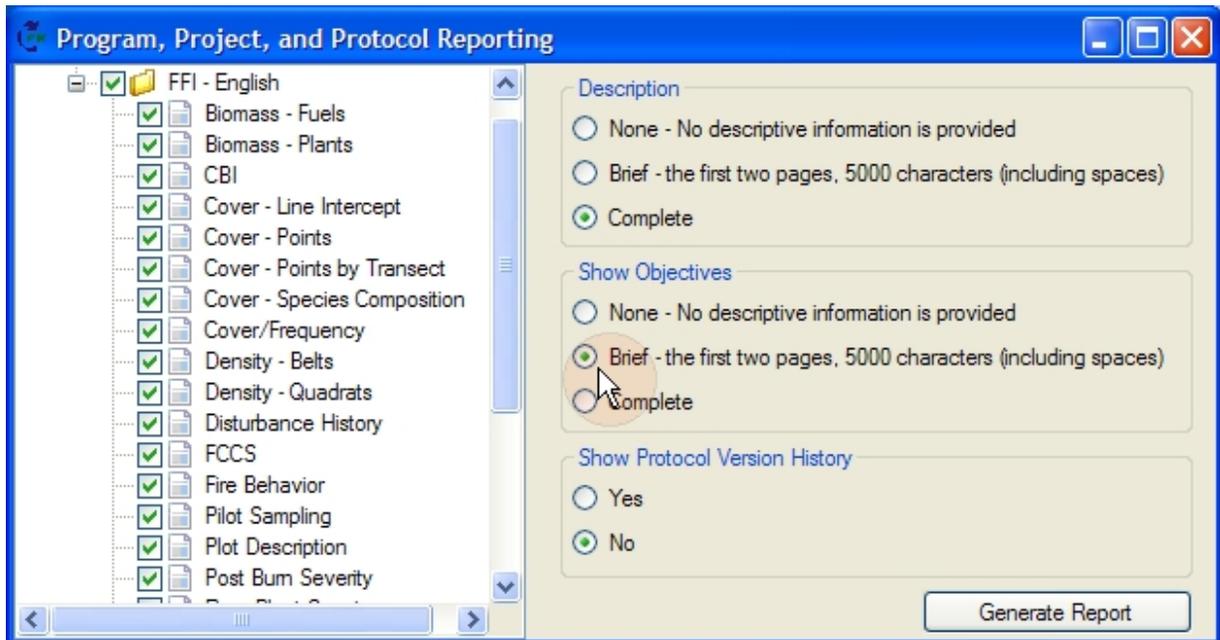
3. Select the scope of the report by right-clicking on the program, project, or protocol name.
  - o In this example, to include a program and all of its projects and protocols, highlight the program name and right-click. In the menu, click **Recursive Select**. The program and all of its projects and protocols will then be checked in the tree view.



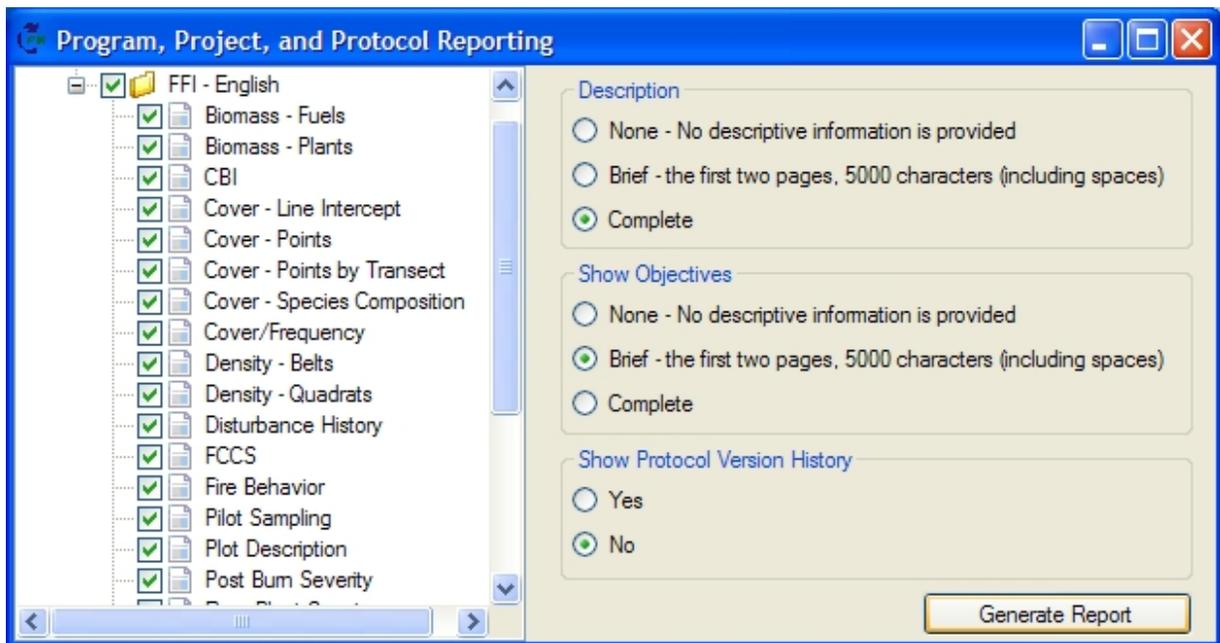
- o To include the program and only certain projects and protocols, right-click and select **Recursive Deselect** in the menu. None of the underlying projects and protocols will be checked, and you can select only the ones you wish to include in the report. In this example, the project **FFI - English** and the protocols **CBI**, **Density - Belts** and **Quadrats**, and **Plot Description** are selected for reporting.



4. Select the options for the report. In this example, the report is for the program **FFI** and its project and protocols. The report will include complete text for the description fields and the first 5,000 characters of the **Objectives** fields.



5. When you are ready, click **Generate Report**.



6. In the **Save As** box, add the name and file location for the report, and click **Save**. See the [sample report](#).

You can open the report in a text editor, or open it in Word to reformat it to meet your requirements.

*NOTE: Any fields that do not contain data are reported as NULL.*

## Sample Program, Project, and Protocol report

A sample of the **Program, Project, and Protocol** report is shown below. Fields for which no information is available are shown as **Null**.

|   |                 |
|---|-----------------|
| <b>FFI PROGRAM:</b>                             |                 |
| <b>Program Name:</b>                            | FFI             |
| <b>Contact:</b>                                 |                 |
| <u>Name</u>                                     | NULL            |
| <u>Title</u>                                    | NULL            |
| <u>E-mail</u>                                   | NULL            |
| <u>Phone</u>                                    | NULL            |
| <u>URL</u>                                      | NULL            |
| <u>Address</u>                                  | NULL            |
| <b>Description (brief)</b>                      |                 |
| NULL  |                 |
| <b>Objective (brief)</b>                        |                 |
| NULL  |                 |
| .....Section Bre                                |                 |
| <b>FFI PROJECT:</b>                             |                 |
| <b>Project Name</b>                             | FFI - English   |
| <b>Contact:</b>                                 |                 |
| <u>Name</u>                                     | test            |
| <u>Title</u>                                    | NULL            |
| <u>E-mail</u>                                   | NULL            |
| <u>Phone</u>                                    | NULL            |
| <u>URL</u>                                      | NULL            |
| <u>Address</u>                                  | NULL            |
| <b>Description (brief)</b>                      |                 |
| test  |                 |
| <b>Objective (brief)</b>                        |                 |
| test  |                 |
| .....Section Bre                                |                 |
| <b>FFI PROTOCOL:</b>                            |                 |
| <b>Protocol Name</b>                            | Biomass - Fuels |
| <b>Contact:</b>                                 |                 |
| <u>Name</u>                                     | NULL            |
| <u>Title</u>                                    | NULL            |
| <u>E-mail</u>                                   | NULL            |
| <u>Phone</u>                                    | NULL            |
| <u>URL</u>                                      | NULL            |
| <u>Address</u>                                  | NULL            |
| <b>Description (brief)</b>                      |                 |
| Fuel biomass estimates for all fuel components. |                 |
| <b>Version History</b>                          |                 |
| <b>Methods</b>                                  |                 |
| Biomass - Fuels                                 |                 |

## Method reports

A **Method** report presents details for each selected method. Fields included in these reports include:

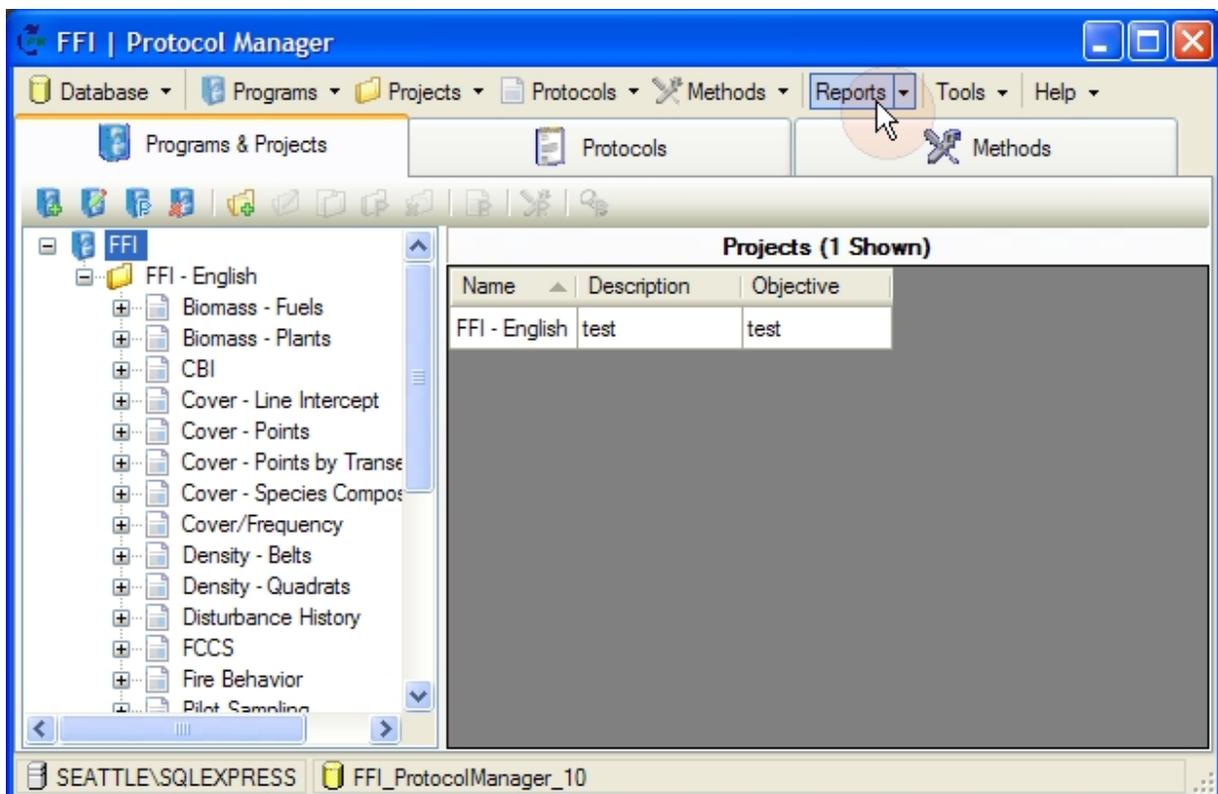
- o Method name.
- o Basic information: unit system, single record true/false, method shape.
- o Version history.
- o Description - brief, complete, or not displayed.
- o Production status.
- o Application of method - identification of projects and protocols that use the method.
- o Sample attribute data - detailed or not displayed.
- o Method attribute data - detailed or not displayed.

*NOTE: Depending on the attribute option that you select, your method report may be quite lengthy. You may see a progress bar while the report is processing.*

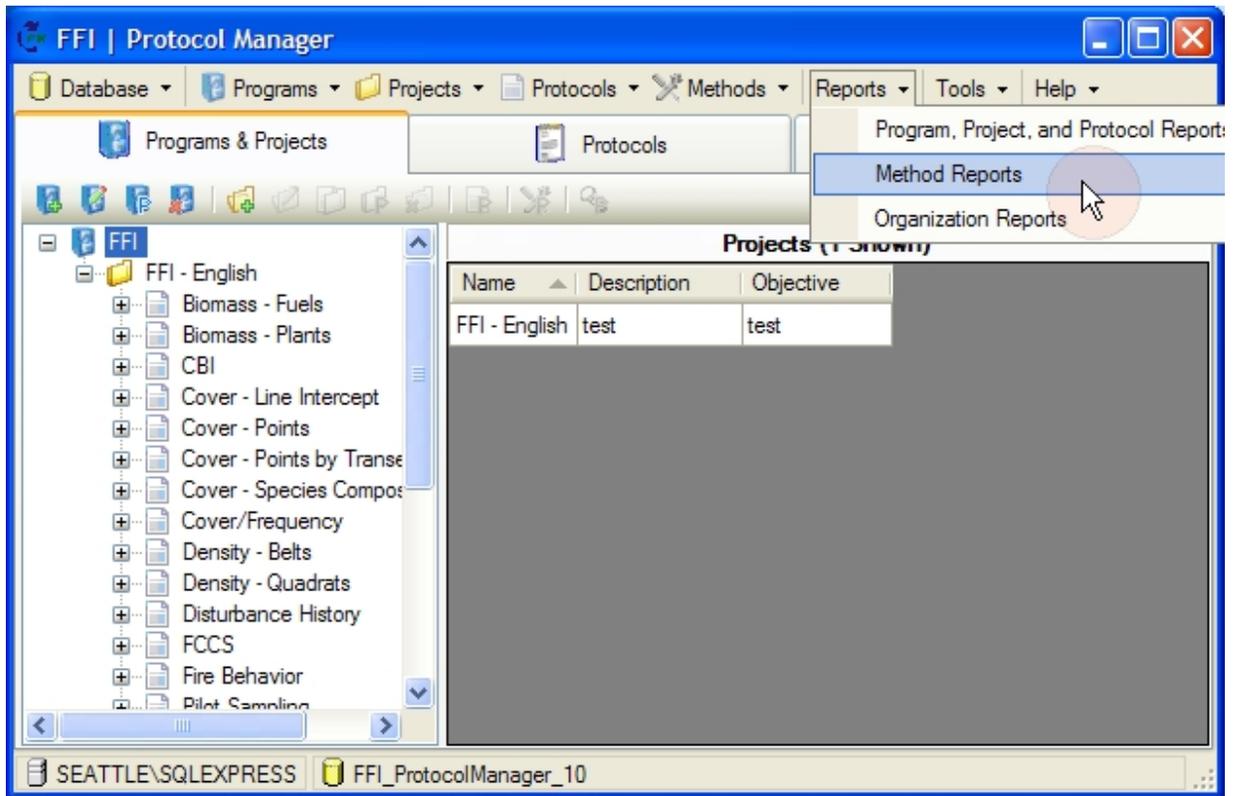
## Generating the report

To create a **Method** report:

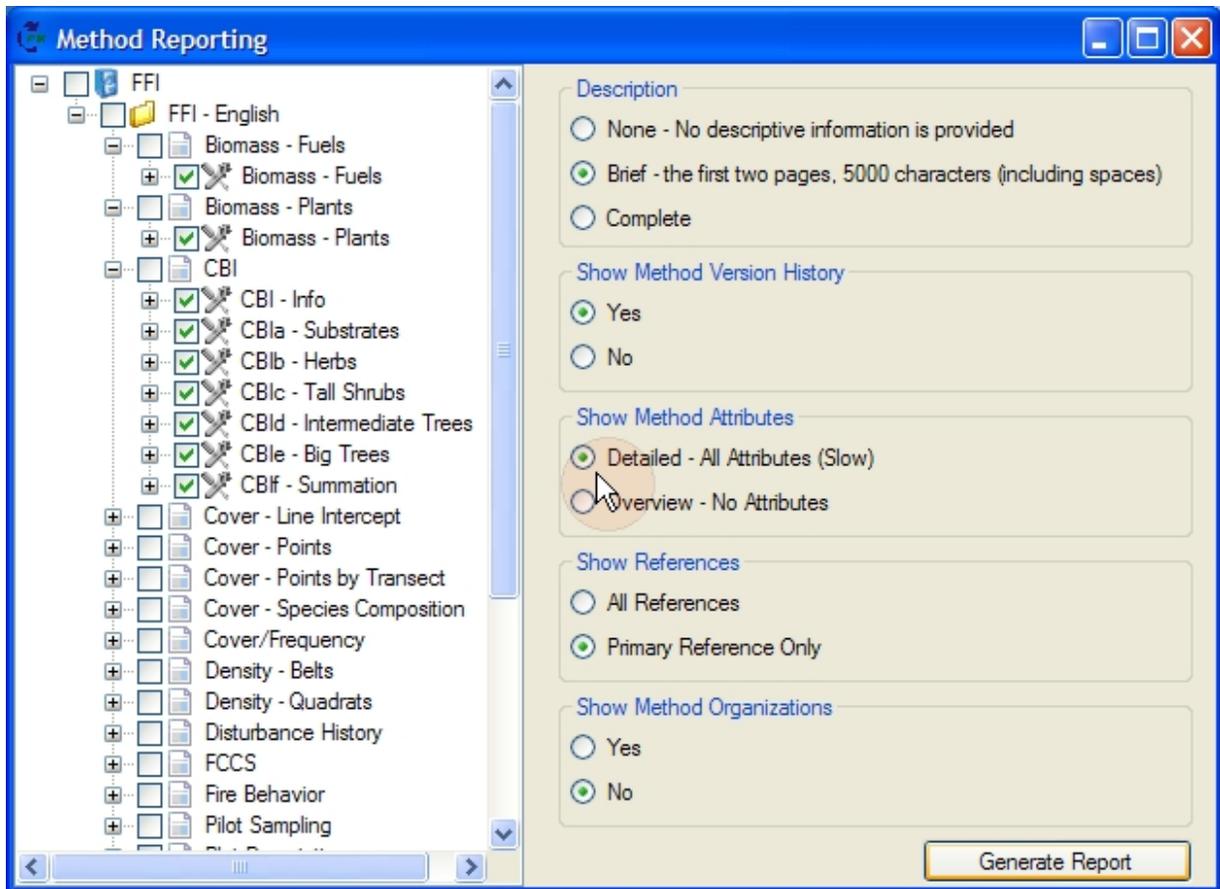
1. Reach the **Reports** menu through the main Protocol Manager toolbar.



2. Select **Method Reports**.



3. Use the **Recursive Select** or **Recursive Deselect** right-click menu items to select the methods to be reported. See [Generating reports](#) for more information.
4. Select the options for the report. When you are ready, click **Generate Report**. See a [sample report](#).



*NOTE: If you opt to include detailed information for method attributes, your report will be lengthy and will take a few minutes to process.*

5. In the **Save As** box, add the name and file location for the report, and click **Save**.

You can open the report in a text editor, or open it in Word to reformat it to meet your requirements.

*NOTE: Any fields that do not contain data are reported as NULL.*

## Sample Method report

A sample of the summary-level **Method** report is shown below. For brevity, the first report sample was generated using the **Overview** method attribute option and does not show the comprehensive sample and method attribute data that a complete report would contain.

The second sample indicates the level of detail available when the **Detailed** method attribute option is selected. When you apply this option, the sample and method attribute information is shown between **Description** and **Production Status**, as shown by the arrow below.

Fields for which no information is available are shown as **Null**.

|   |   |
|---|---|
| <b>FFI METHOD:</b>                              |   |
| <b>Method Name:</b>                             | Density - Belts                         |
| <b>Unit System</b>                              | English                                 |
| <b>Single Record</b>                            | False                                   |
| <b>Method Shape</b>                             | Belt                                    |
| <b>Version History</b>                          |   |
| <u>Time Stamp</u>                               | Wednesday, January 31, 2007 10:21:09 AM |
| <u>Description</u>                              |   |
| <b>Description (brief)</b>                      | <i>NULL</i>                             |
| <b>Production Status</b>                        | True                                    |
| <b>Application of Method</b>                    |   |
| This method is used by the following protocols: |   |
|   | Density - Belts                         |
| This method is used by the following Projects:  |   |
|   | FFI - English                           |

|                          |                 |
|--------------------------|-----------------|
| <b>Method Attributes</b> |                 |
| <b>Name</b>              | Transect        |
| <b>Caption</b>           | Transect        |
| <b>Description</b>       | Transect number |
| <b>Order</b>             | 0               |
| <b>Unit</b>              | Number          |
| <b>Data Type</b>         | Long            |
| <b>Decimal Places</b>    | 0               |
| <b>Calculation</b>       | <i>NULL</i>     |
| <b>Roll Down</b>         | True            |
| <b>Default Value</b>     | <i>NULL</i>     |
| <b>Minimum Value</b>     | 1               |
| <b>Maximum Value</b>     | <i>NULL</i>     |
| <b>Value Length</b>      | 0               |
| <b>Display Length</b>    | <i>NULL</i>     |
| <b>Allow Null</b>        | False           |
| <b>Visible</b>           | True            |
| <b>Data Level</b>        | Not Defined     |
| <b>Limit To List</b>     | True            |

## Organization reports

In Protocol Manager, you can apply an organization structure to categorize your methods and protocols based on subject, discipline, domain, or other criteria (for more information, see [Managing organizations](#)). An **Organization** report presents information about each organization or organization group that you set up for your programs and projects. Fields included in these reports include:

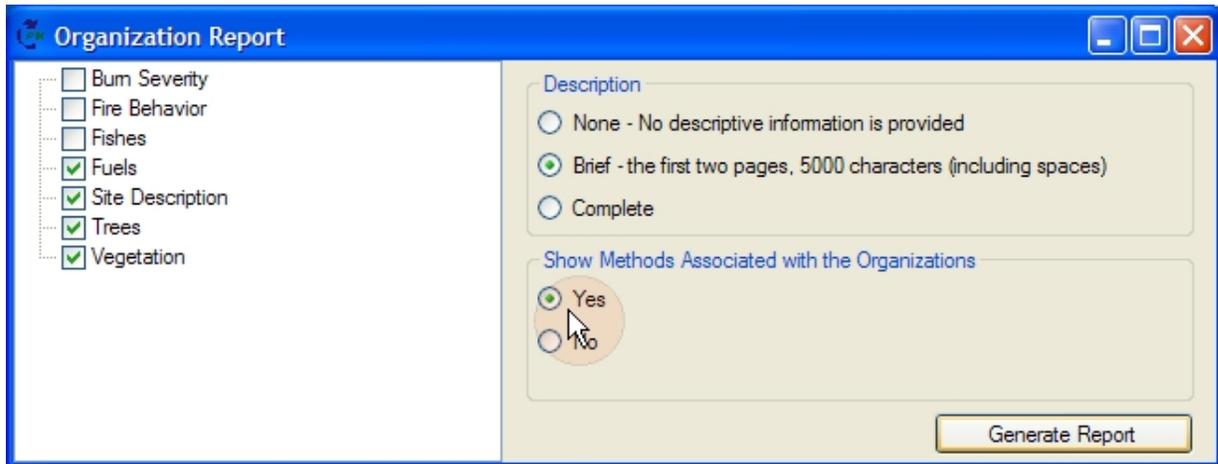
- o Organization name and description.

- o Organization group name and description.
- o Identification of methods that use the organization.

## Generating the report

To generate an **Organization** report:

1. Reach the **Reports** menu through the main Protocol Manager toolbar and select **Organization Reports**.
2. Check the organizations to be reported and select options for the report. When you are ready, click **Generate Report**.



3. In the **Save As** box, add the name and file location for the report, and click **Save**.

You can open the report in a text editor, or open it in Word and reformat it to meet your requirements.

*NOTE: Any fields that do not contain data are reported as NULL.*

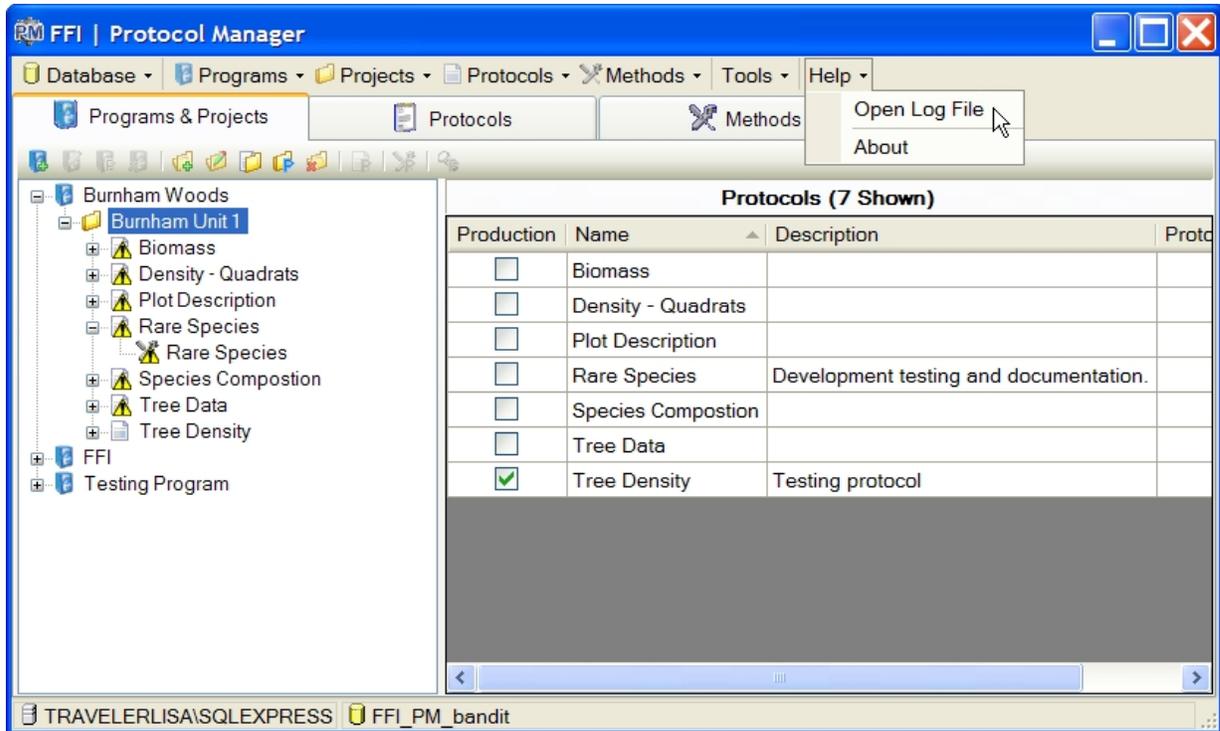
## Sample Organization report

Two sample entries in an organization report are shown below. In this example, the organizations are **Fuels** and **Site Description**, and because no descriptions were supplied for these organizations, the description fields are **Null**. The methods that use the organizations are also listed.

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>Organization</b>             |                                    |
| <b>Name</b>                     | Fuels                              |
| <b>Description</b>              | <i>NULL</i>                        |
| <b>Group</b>                    |                                    |
| <b>Name</b>                     | Subject                            |
| <b>Description</b>              | <i>NULL</i>                        |
| Methods using this Organization |                                    |
|                                 | Surface Fuels - Vegetation         |
|                                 | Biomass - Fuels                    |
|                                 | Surface Fuels - Duff/Litter        |
|                                 | Surface Fuels - Piles              |
|                                 | FCCS                               |
|                                 | Surface Fuels - Fine               |
|                                 | Surface Fuels - 1000Hr             |
|                                 | Surface Fuels - Alaska Duff/Litter |
| ..... Section                   |                                    |
| <b>Organization</b>             |                                    |
| <b>Name</b>                     | Site Description                   |
| <b>Description</b>              | <i>NULL</i>                        |
| <b>Group</b>                    |                                    |
| <b>Name</b>                     | Subject                            |
| <b>Description</b>              | <i>NULL</i>                        |
| Methods using this Organization |                                    |
|                                 | Plot Description                   |

## Help menu

Click **Open Log File** in the **Help** pull-down menu to generate a log file in Notepad. The default log file name is *ProtocolManagerLog.txt*.



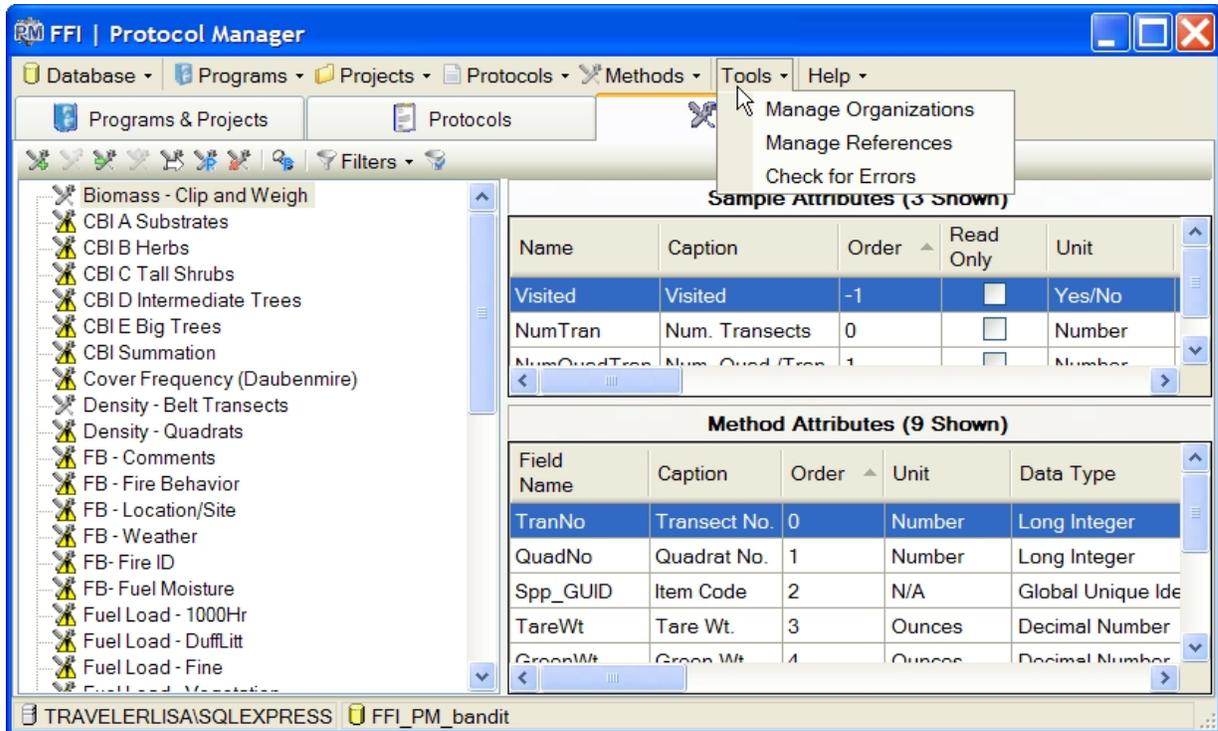
*NOTE: Always generate an error log before posting a support request on the forum or contacting technical support.*

```
ProtocolManagerLog.txt - Notepad
File Edit Format View Help
MESSAGE: Login failed for user 'sa'.
SOURCE: .Net SqlClient Data Provider
TYPE: System.Data.SqlClient.SqlException
MACHINE NAME: TRAVELERLISA
-----
EXCEPTION STACK TRACE:
  at System.Data.SqlClient.SqlInternalConnection.OnError(SqlException
exception, Boolean breakConnection)
  at
System.Data.SqlClient.TdsParser.ThrowExceptionAndWarning(TdsParserStateObj
ect stateObj)
  at System.Data.SqlClient.TdsParser.Run(RunBehavior runBehavior,
SqlCommand cmdHandler, SqlDataReader dataStream, BulkCopySimpleResultSet
bulkCopyHandler, TdsParserStateObject stateObj)
  at System.Data.SqlClient.SqlInternalConnectionTds.CompleteLogin(Boolean
enlistOK)
  at
System.Data.SqlClient.SqlInternalConnectionTds.OpenLoginEnlist(SqlConnectio
n owningObject, SqlConnectionString connectionOptions, String newPassword,
Boolean redirectedUserInstance)
  at
System.Data.SqlClient.SqlInternalConnectionTds..ctor(DbConnectionPoolIdentit
y identity, SqlConnectionString connectionOptions, Object providerInfo,
```

## Tools menu

The **Tools** menu provides access to several support functions. The available **Tools** functions are:

- o [Managing organizations](#)
- o [Managing references](#)
- o [Checking for errors](#)



## Managing organizations

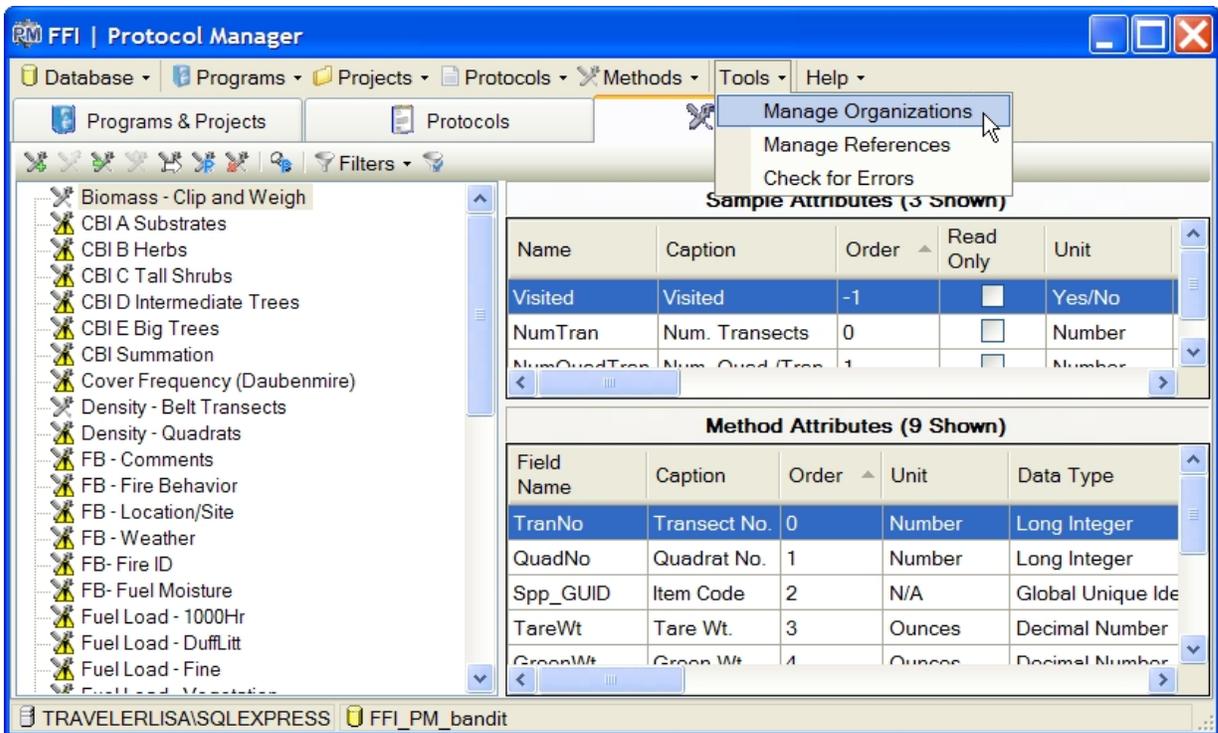
In Protocol Manager, you can apply an organization structure to categorize your methods and protocols based on subject, discipline, domain, or other criteria. Protocol Manager uses a two-tiered filtering approach that lets you dynamically filter the amount of data that you see as you are working. Simply put, you can assign organization groups (main categories) and organizations (sub-categories) to your methods and protocols, and then, using a filter, view only those methods that belong to a specific organization. See [Adding organizations](#) and [Assigning organizations to methods](#) for more information.

Protocol Manager is shipped with five default organization groups, which are identified along with their organizations in the figure below. You can create more groups as needed to meet your requirements, and you can add new organizations to the groups.

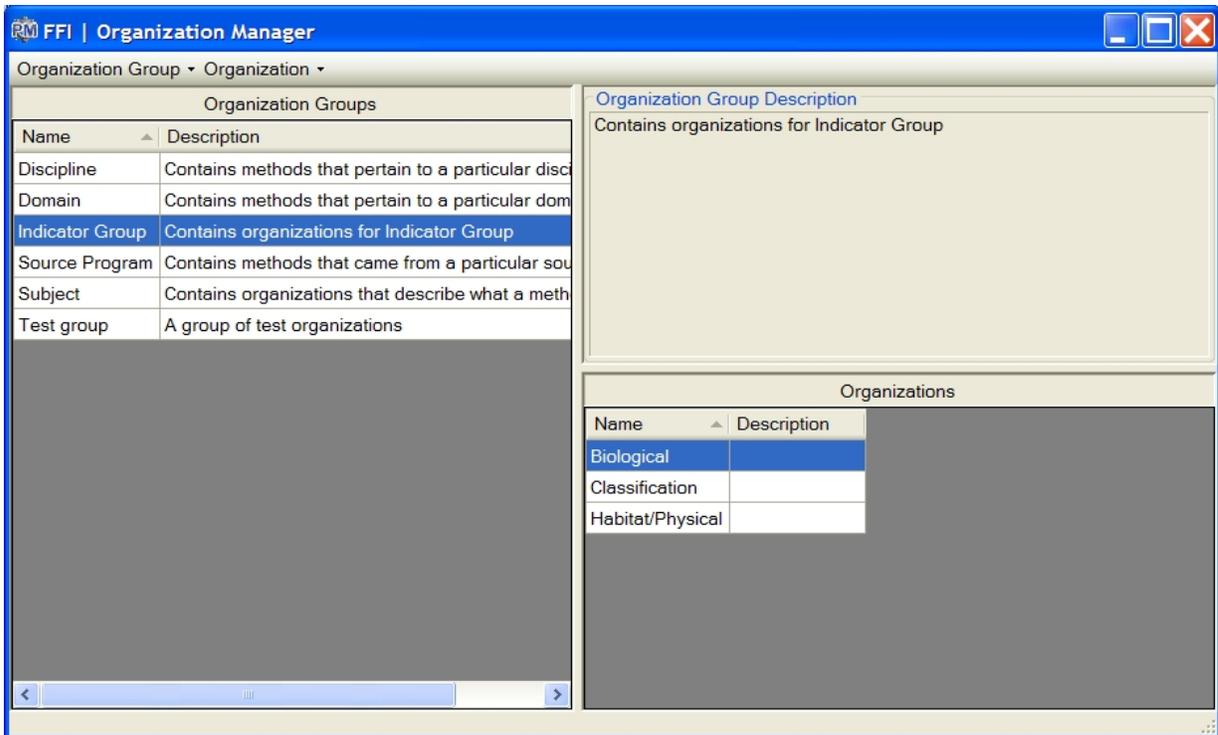
| Discipline             | Domain                | Subject                   | Indicator Group       | Source Program          |
|------------------------|-----------------------|---------------------------|-----------------------|-------------------------|
| All (10 Organizations) | All (3 Organizations) | All (9 Organizations)     | All (3 Organizations) | All (4 Organizations)   |
| Calibration            | Field Sample [22]     | Channel Condition         | Biological            | EMAP (Surface Waters)   |
| Costal                 | Other                 | Fish                      | Classification        | FEAT [22]               |
| Fisheries              |                       | Flows & Hydrology         | Habitat/Physical      | PIBD Integrator Reaches |
| Meteorology            |                       | General Reach Information |                       | Upper Columbia RME      |
| Ocean                  |                       | Habitat Quality           |                       |                         |
| Other                  |                       | Macroinvertebrates        |                       |                         |
| Rivers - Nonwadeable   |                       | Riparian Condition        |                       |                         |
| Streams - Wadeable     |                       | Water Quality             |                       |                         |
| Terrestrial [22]       |                       | Watershed Condition       |                       |                         |
| Wild Life              |                       |                           |                       |                         |

To manage organization groups and organizations:

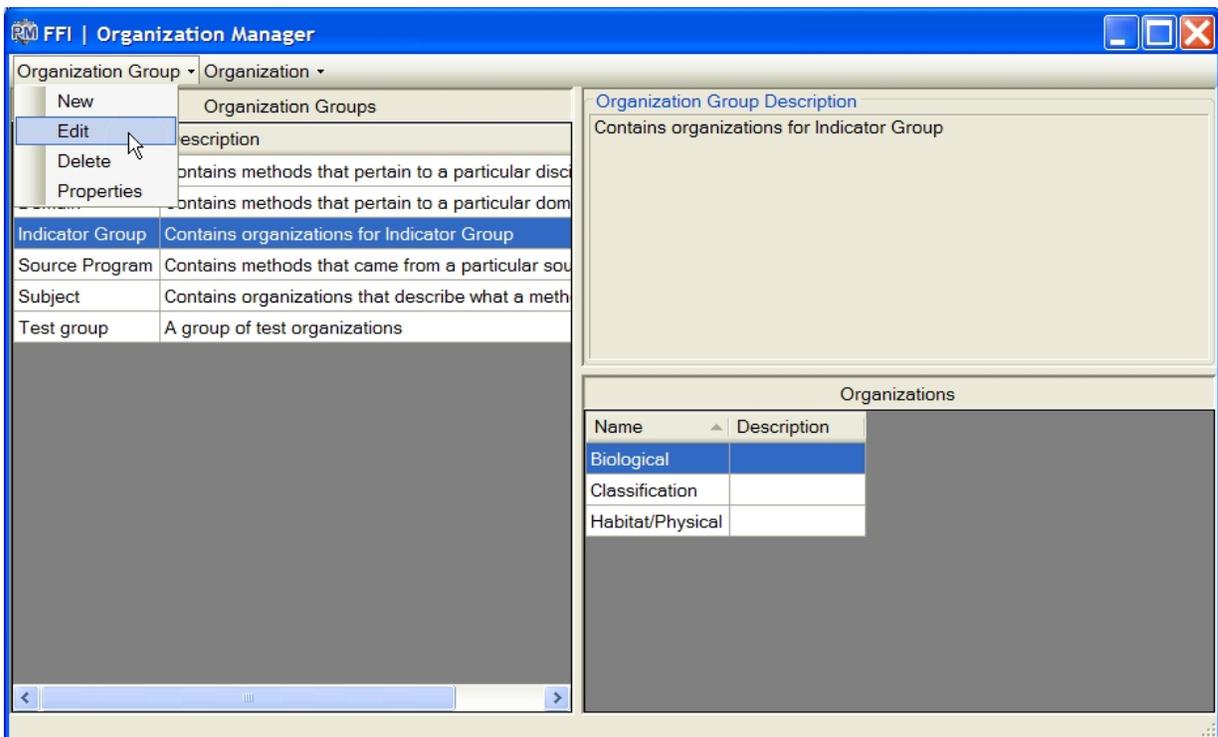
1. In the **Tools** pull-down menu, select **Manage Organizations**.



2. The **Organization Manager** window opens. Click through the **Organization Groups** to view the associated **Organizations**.



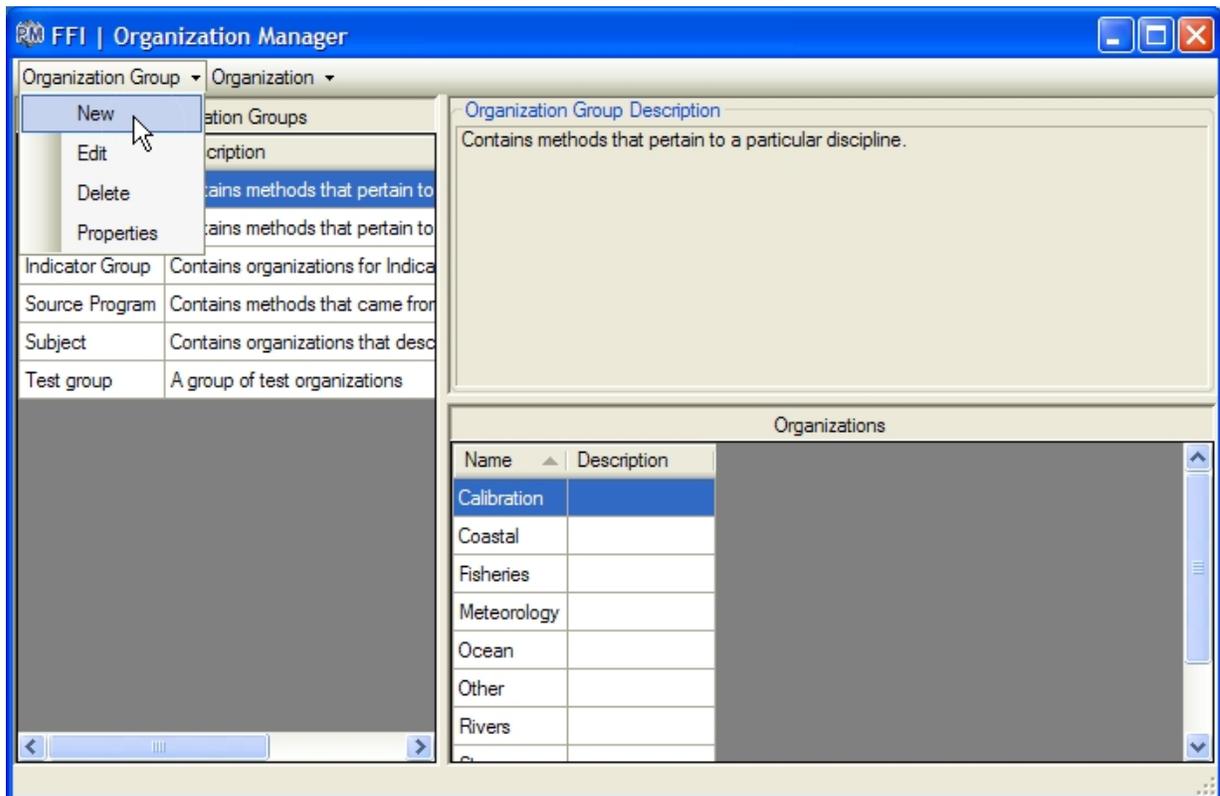
- Use the **Organization Group** and **Organization** pull-down menus to make any necessary changes.



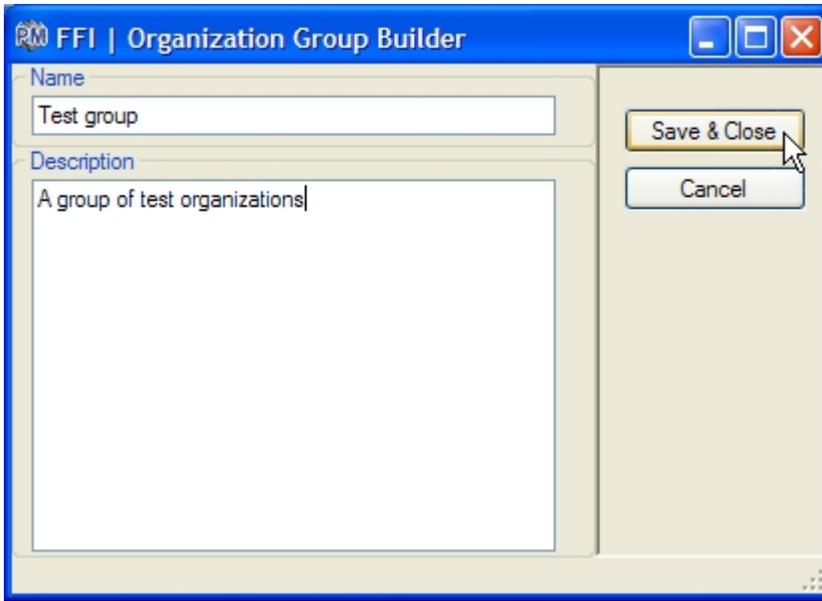
## Adding organization and organization groups

For information about organization groups and organizations, see [Managing organizations](#).

1. In the **Tools** pull-down menu, click **Manage Organizations**.
2. The **Organization Manager** opens. In the **Organization Group** pull-down menu, click **New**.



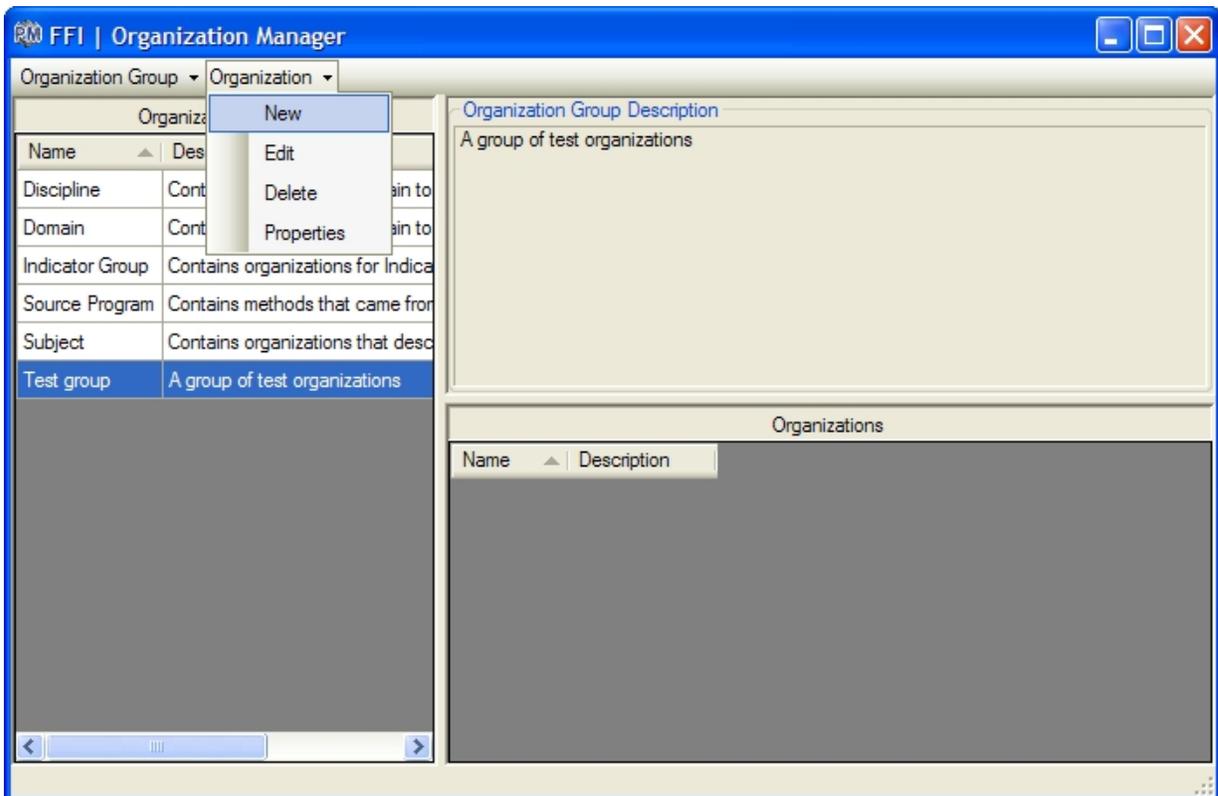
3. In the **Organization Group Builder**, enter a name and description for the group and click **Save & Close**.



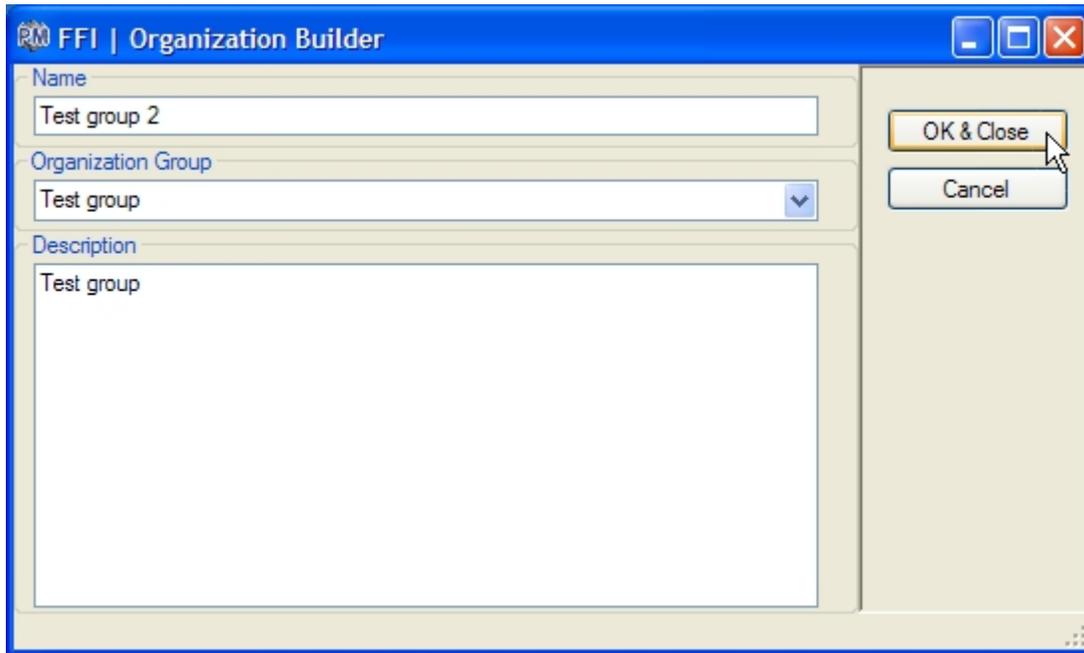
[continued](#)

## Adding organizations (continued)

4. Back in the **Organization Manager** window, click **New** in the **Organization** pull-down menu to add organizations to **Test group**.



5. In the **Organization Builder**, select the appropriate organization group in the pull-down menu. Enter a name and description for the organization and click **OK & Close**.



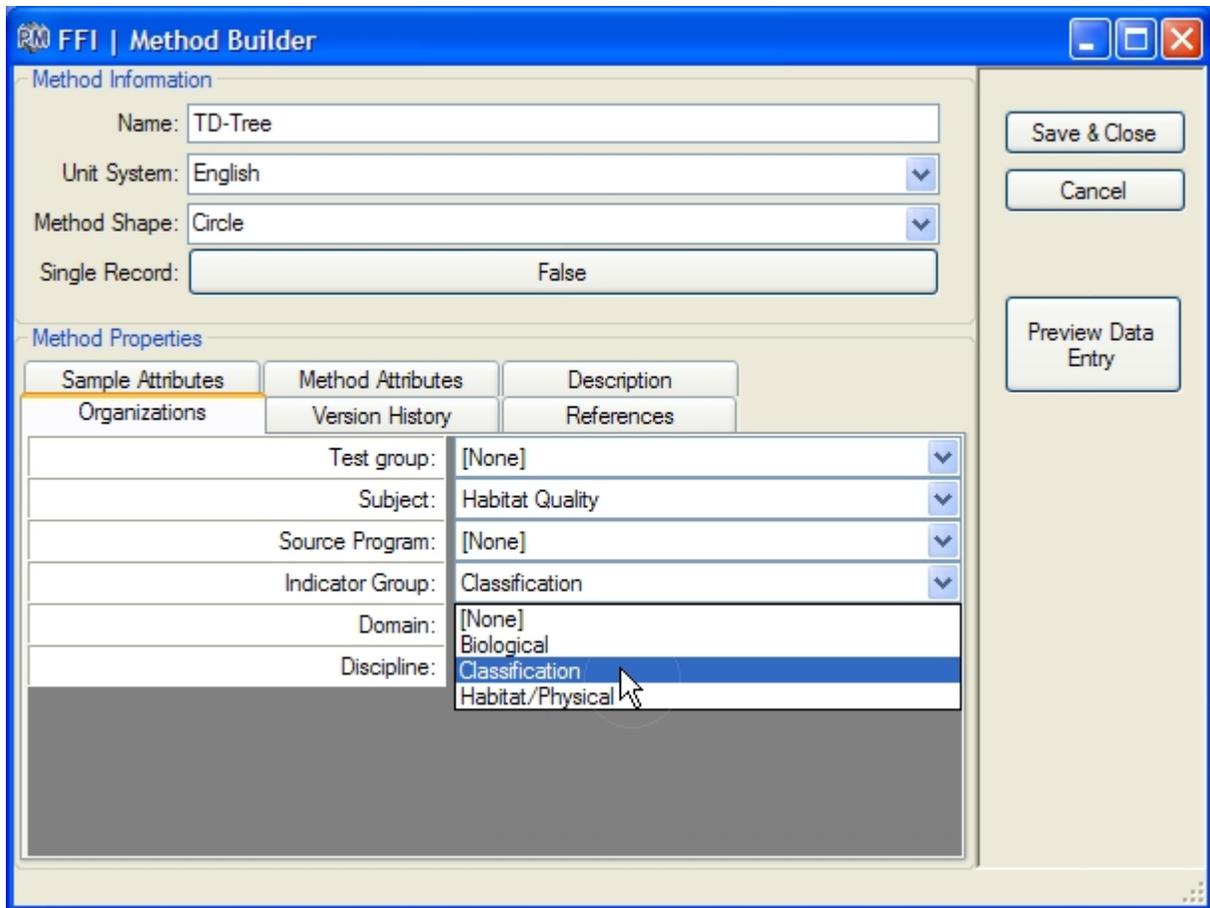
*NOTE: Use the **Manage Organization** tool to edit and delete organizations and groups.*

See [Assigning organizations to methods](#).

## Assigning organizations to methods

For information about organization groups and organizations, see [Managing organizations](#).

After you add organization groups and organizations, you can assign them to the appropriate methods. For example, you can assign the organizations *Classification*, *Habitat Quality*, *Terrestrial*, and *Field Sample* to the method *TD-Tree*, as shown below.

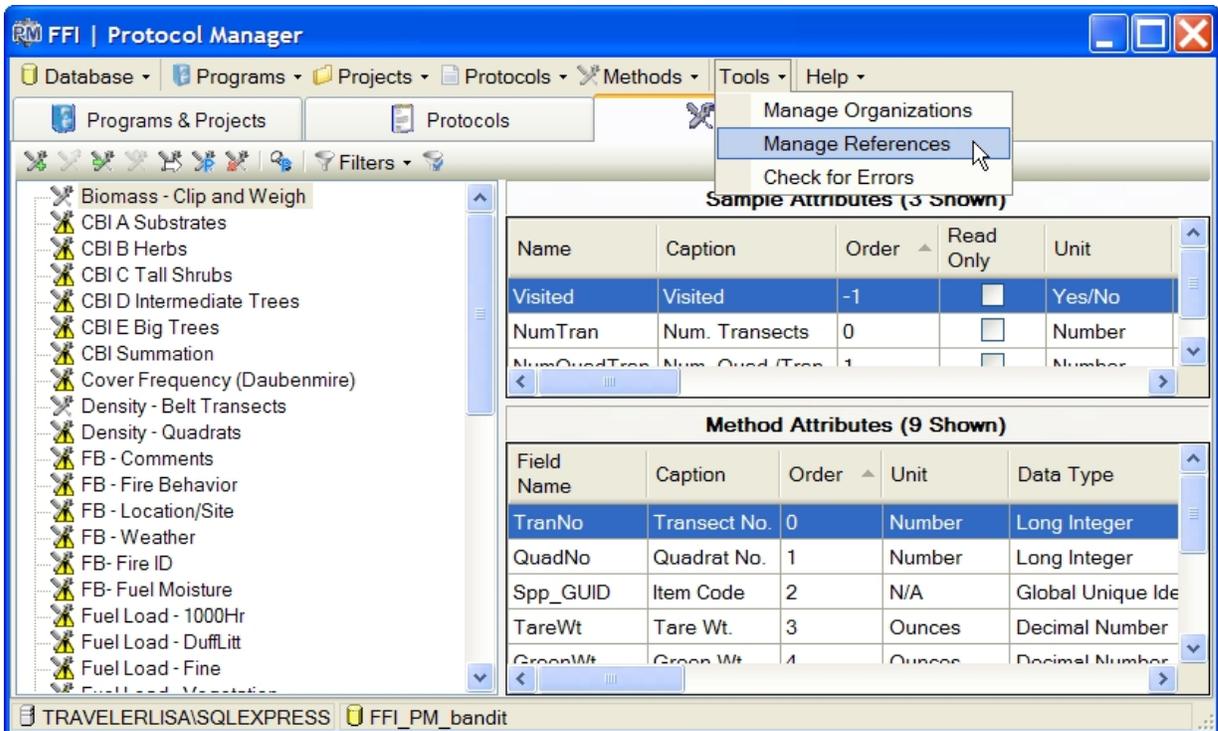


1. In the **Method** view, select the method.
2. Select **Edit Method** by right-clicking the method name or clicking the **Edit Method** icon on the toolbar.
3. In the **Organizations** tab, assign the appropriate organizations.
4. When you are done, click **Save & Close**.

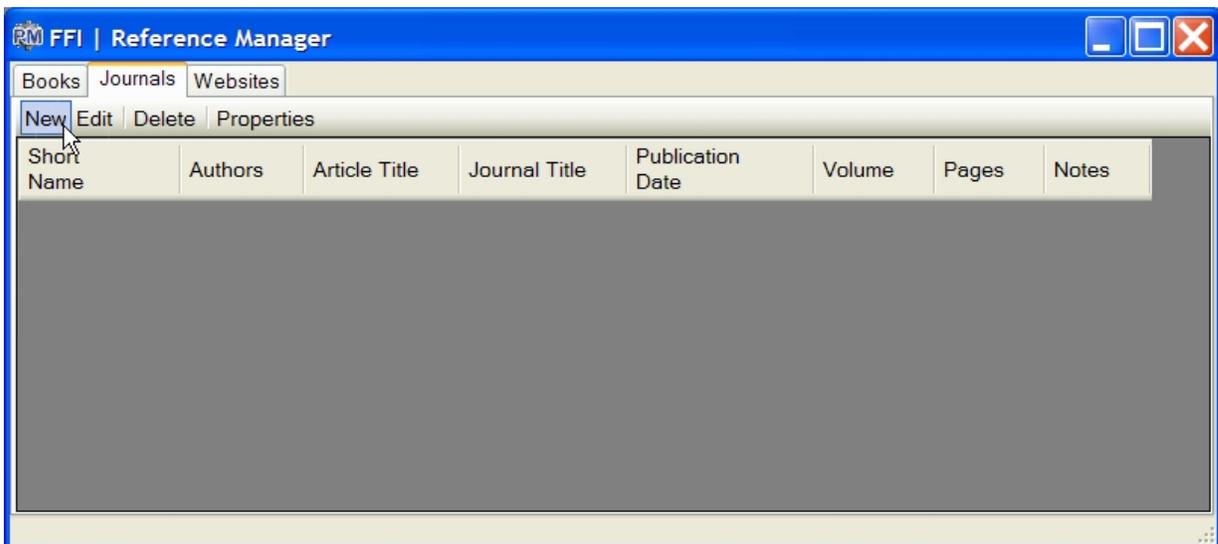
## Managing references

The **Manage Reference** feature lets you enter and update technical references for your methods and protocols. To use this feature:

1. In the **Tools** pull-down menu, select **Manage References**.



- In the **Reference Manager** window, select the reference type (**Journals** is selected) and click **New**.



- Enter the reference data and click **Save & Close**.

RM FFI | Journal Reference Builder

Short Name: Airplane

Author Name(s) (Last, Bernstein, Mark

Article Title: How the Airplane Learned to Fly

Journal Title: Invention & Technology

Publication Date: Wednesday, June 01, 2005

Volume: Volume 21, Number 1

Pages: 12-19

Notes: interesting article

Save & Close

Cancel

*NOTE: Use the **Notes** section to indicate whether the reference pertains to a specific method or protocol, or whether it is a more general reference.*

- The new reference is listed in the **Reference Manager** window. It can be edited or deleted.

RM FFI | Reference Manager

Books Journals Websites

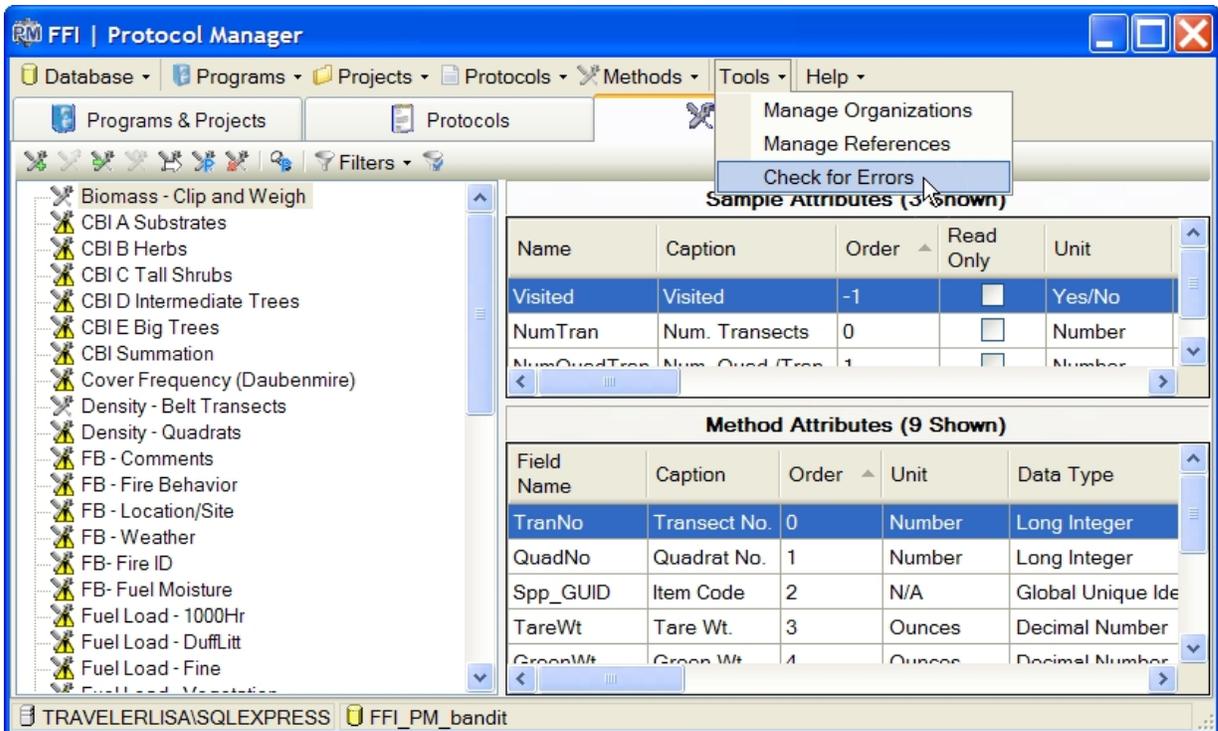
New Edit Delete Properties

| Short Name | Authors         | Article Title                   | Journal Title          | Publication Date  | Volume       |
|------------|-----------------|---------------------------------|------------------------|-------------------|--------------|
| Airplane   | Bernstein, Mark | How the Airplane Learned to Fly | Invention & Technology | 6/1/2005 10:03 AM | Volume 21, N |

## Checking for errors

To run error checking and view an error report:

- In the **Tools** pull-down menu, select **Check for Errors**.



2. Protocol Manager immediately runs the internal error checker and displays all errors found. You can copy and paste the text into a Word document or text file for further review. Close the report when you are finished.

