EPA Assessment Database
Version 2

Funded by
EPA Office of Water

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Introduction

The U.S. Environmental Protection Agency's (EPA's) Assessment Database (ADB) software was developed as a tool for State environmental agencies to ease the burden of State reporting of water quality assessment data. The EPA supported the development and distribution of the ADB software to encourage standardization of reporting between sates and facilitate the generation of the National Assessment Database and the biennial National Water Quality Inventory. The main function of the Assessment Database version 2 (ADBv2) is to store assessment information in a way that is consistent with EPA's *Guidance for 2008 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act* (EPA 2006); henceforth referred to as the Guidance, which is available at: http://www.epa.gov/owow/tmdl/2008_ir_memorandum.html. In the Guidance, EPA encouraged states to integrate the reporting requirements under Sections 305(b) and 303(d) of the Clean Water Act (CWA). ADBv2 is designed to facilitate the integration of the two programs and produce attainment category reports, as defined by the Guidance, based on the assessment information in the database.

System Overview

The ADBv2 is a relational database application based on either an Oracle, Microsoft (MS) Access, or SQL Server database with a Visual Basic user interface. The ADB includes two files: a user interface file and a database file. The user interface file must be installed locally on each user's machine. This file contains all of the graphical screens and tools that allow the user to enter and view data. The second file is a database file that stores all of the data. This file may be stored on an individual machine or on a server for access by multiple users. An advantage of this two-file design is that the graphical interface can be improved without affecting the table structure or data stored in the database file.

The user interface of the MS Access and SQL Server versions of the ADB are virtually the same as the Oracle version, which was originally used to develop the ADBv2; however, choosing to use the MS Access version does not allow the user to take advantage of the power of the Oracle database. MS Access ADBv2 users will sacrifice (1) a more secure data storage environment and the ability to create user profiles with specific data privileges, (2) the ability to restore lost or corrupted data and significantly lower incidents of database corruption, (3) data back-up features, (4) increased data storage capacity (e.g., the Oracle version of ADBv2 can store data that could easily exceed the 2 gigabyte storage capacity in MS Access), and (5) Web servability. Using the SQL Server version does not have the disadvantages of using the MS Access version.

Getting Started

Installing the ADB

For detailed instructions on installing the ADB, see *Appendix A* of the ADB User's Guide, available from the "Reference" section at www.epa.gov/waters/adb. There are two parts to the installation of the ADB: installing the user interface, such as data entry and viewing forms, and the database, or the actual data tables. You may want to have your database administrator (DBA) handle the database installation for you.

If you use the Oracle or SQL Server version of ADBv2, your DBA can also set up users for the ADB. There are two types of ADB users: administrators and users. Personnel who have been assigned the administrator role can add, delete, and modify data. Personnel who have been assigned a user role can only view data. The Oracle version of ADBv2 comes with a default user called ADBUSER (this is also the password). ADBUSER has administrative privileges, so all of your assessment data may be entered using this login. You can also have your DBA remove ADBUSER if database security is a concern. For the SQL Server version, users' roles must be set up before data can be entered or viewed via the user interface. User-level security is not available if you use the MS Access version of ADBv2.

Starting the ADB

Microsoft Access

After installing the ADB Interface, you will have a new item on your *Start->Programs* menu in Windows called *ADBv2 for Access*. Select *ADBv2* from this menu to start the application. You will be prompted to navigate to the ADBaccess.mdb database if you see the following message:

Oracle

After installing the ADB Interface, you will have a new item on your *Start->Programs* menu in Windows called *ADBv2 for Oracle*. Select *ADBv2* from this menu to start the application. You will be prompted to enter the database name, a user name, and password. Use the default settings, which are shown below, or check with your Oracle DBA for the appropriate entries for this dialog.

Database Name:	ADB
User name:	ADBUSER
Password:	ADBUSER

Default settings for accessing ADBv2

SQL Server

       After installing the ADB Interface, you will have a new item on your ***Start->Programs*** menu in Windows called ***ADBv2 for SQL Server***. Select ***ADBv2*** from this menu to start the application. In the "Connect to Database" dialog box, you will have to enter the name of the server that has the SQL Server database. Next, specify a security option. There will be two security choices: Windows NT security or user-level security. If you use NT security, you do not need to enter a user name and password. Before you can use the ADB, you will need to be set up as a user and assigned an ADB User role. Once you enter this information, the ADB will record your entries (except for the password) to speed up your login to the ADB. Use the default settings, which are shown below, or check with your SQL Server DBA for the appropriate entries for this dialog. User-level security requires you to enter a password.

Database Name:	ADB
User name:	ADBUSER
Password:	ADBUSER

Default settings for accessing ADBv2

Starting Up

       The first time you start the ADB, you will be prompted to select the state with which you will be working. If no data exists for the current cycle, you will be asked if you want to begin working on the current cycle. If you click ***No***, you will then be asked to select an existing cycle. The ADB will default to this selected state and cycle the next time you start the ADB. You can change the state and cycle you are working with at any time using the ***Data*** menu.

Installing the Sample Data

       Unzip the contents of the **ADB_SampleData.zip** file into the "ADB_SampleData" folder on your C:\ drive.

Tutorial Organization

This tutorial uses sample data that comes with the ADBv2. The first two exercises are "stand alone;" however, starting with *Exercise 3*, each exercise builds on the previous exercise. Therefore, these exercises should be completed in order, as entering data other than what is listed in the tutorial will result in data scenarios inconsistent with the tutorial.

All the exercises include text descriptions of the program functions and associated concepts, as well as step-by-step instructions that you should follow on your PC. The step-by-step instructions are highlighted in gray text boxes, separate from the text, as shown below.

|	
1.	This is an example of a text box that contains instructions for this tutorial.

Exercise 1. Exploring ADBv2

How to Browse and Review Data, Insert Mercury Reduction Strategy (5M) Documentation, and Add Atlas Information

1.	Open the ADB by clicking *Start->Programs->ADBv2 for [version]->ADBv2*.

For Microsoft Access

2.   If you have never accessed the database before, or if you have deleted or moved the database since you last accessed it, navigate to the ADBaccess.mdb database in *C:\ADB_SampleData*.
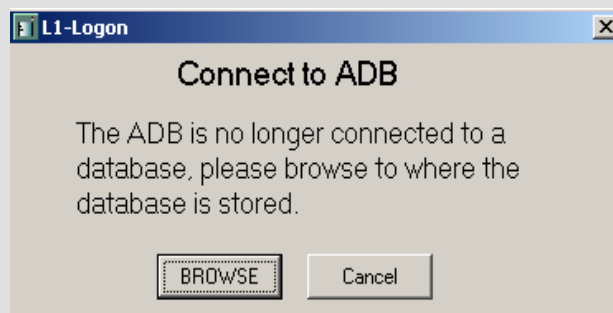
For Oracle

Log on by entering the following:

|	
Database Name:	**ADB**
User name:	**ADBUSER**
Password:	**ADBUSER** (or check with your DBA for the appropriate password).

For SQL Server

Log on by filling out the "Connect to SQL Server" dialog box.

A.   If the database is installed locally, make sure (local) is the server name. Otherwise, enter the server name the ADB is installed on.

B.   Choose a *Security Option*. If you choose *Use Specific User Name and Password*, you will need to enter a **User ID** and or **Password**. NT Security does not require a **User ID** or **Password**.

C.   Choose *ADB* from the **Databases** drop-down list and click *Log On*.

> 3.   If your computer has been used to access the database before, the ADB will open with the state and cycle that were chosen during the first login. If the database has never been accessed from your computer, you will be prompted to select a state and cycle.

> 4.   If you are prompted for "state," specify *TN* (Tennessee) for state and click *OK*. When you get a message saying there is no data for this cycle, click *No*.

Note: If you have previously opened the ADB, go to the Data drop-down menu and select Change State. Select TN in the Choose State drop-down menu and click OK. To change the Cycle, go to the Data drop-down menu and select Change Cycle. Select 1999 from the Choose Cycle Year drop-down menu and click OK.
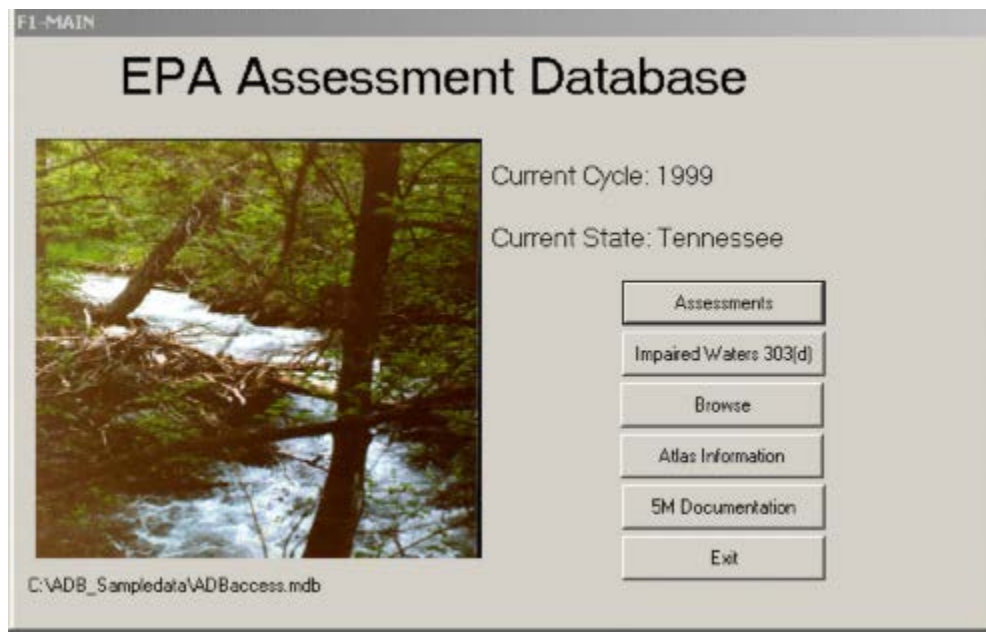
> 5.   Next, select **1999** for the "Choose Cycle Year" dialog box and click *OK*.

The main screen of the ADB features six directional buttons:

> **Assessments** – If you log into the database as a user with administrative privileges, you can use this button to add and make changes to the assessment data in the database.

> **Impaired Waters 303(d)** – This button allows a user to view information about impaired Assessment Units (AUs) and manage their categories.

> **Browse** – This button allows a user to view data in the database, even if he or she does not have administrative privileges.

Atlas Information – This button allows a user to independently track the total water size in the state according to each source and/or scale cited.

5M Documents – This button allows you to enter a URL or description of the mercury program and how the program meets the recommended elements, which are both required by the Clean Water Mercury Guidance if using subcategory 5M.

Exit – This button closes the ADBv2.

Browsing the Assessment Data

The *Browse* features provide a very quick and easy way for you to access information in the ADB. You do not need to have administrative privileges to access the browse features, so people in your agency may access database information through *Browse* without affecting the integrity of the data.

Full Browse

1.	Click on the *Browse* button, then click on the *Full Browse* button.
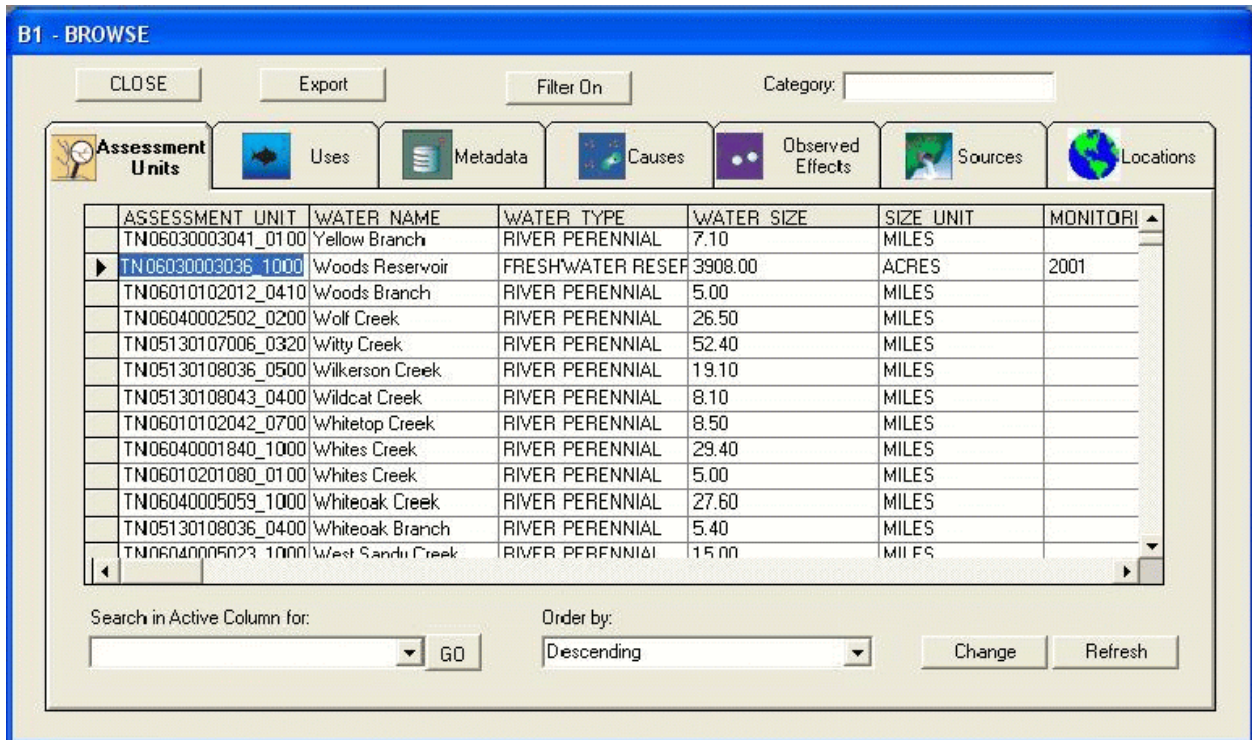
The *Full Browse* option allows you to see all of the data in the database by tabbed sections. You can click on different tabs to view the different types of data in the ADBv2. When examining the tables, you can click on the field names and the table will be sorted by that field. You can control the sort order using the **Order by:** drop-down list. Clicking on a field name also

populates the **Search in Active Column for:** list box with all of the values from that field. This allows you to quickly locate the specific values you are interested in reviewing.

2.	Click on the **Uses** tab and then click on the *USE DESC* field. This sorts the table by Use Description.

3.	Choose *Fish and Aquatic Life* from the **Search in Active Column for:** drop-down list. Click **GO**. This will take your pointer to the first record that has *Fish and Aquatic Life* in the *USE DESC* column.

You can scroll through the list and see those AUs that are "Fully Supporting" the Aquatic Life Use, the AUs which are "Not Supporting," and which AUs have "Insufficient Information." You can search for data in other tabs in the same way. Feel free to examine the other data available through this *Browse* feature.

If you want to export the data in your **Browse** screen, click the *Export* button. This will create a comma delimited (.csv) file in a location that you specify.

4.	Click on the *CLOSE* button, located in the top left corner, when you are finished exploring the *Browse* feature.

Browse by Category

This dialog features the same tabs as the "Browse" dialog box; however, the information shown for each tab only applies to the AU that is currently selected in the *Assessment Units* table on the upper left part of the screen. Similar to the other browse tables, you can sort this table by clicking on one of the columns, and then search for values in the active column. This feature is particularly useful if you want to look at the information associated with a specific AU.

1.	In the "Browse Options" dialog box, click on *Browse by Category*. Select *Category 5* from the **Select a Category** drop-down list.
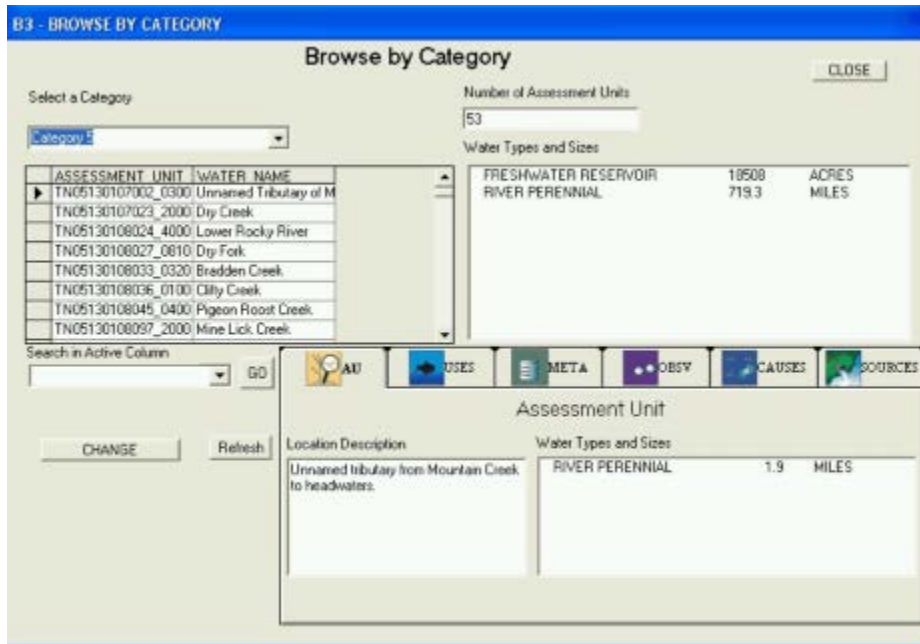
The database selects all the AUs that are in Category 5; in other words, AUs that are impaired or threatened for one or more designated uses by a pollutant(s) and require a Total Maximum Daily Load (TMDL). From the screen, you can view the number of AUs, the water types, and the associated total sizes in the selected category.

2.   Click the **CLOSE** button twice to return to the Main database screen.

Impaired Waters 303(d)

The Impaired Waters 303(d) feature works similarly to the Browse feature. It allows you to view causes by Category, TMDL ID, 303(d) Listing IDs, Cause, and Source. You can also update the data through the **Manage Causes** button.

1.   Click on the *Impaired Waters 303(d)* button. The **Impaired Waters** screen will appear.

You can view impaired waters by choosing one of the *Selection Options*. Note that you may not get results if there is no data in the ADB that meet the selection criteria. For example, no AUs will appear in a *Choose IDs by Category* search for Category 4B waters unless you have specified an expected to meet attainment date for at least one impaired AU.

2.   Click the button beside *Choose by Cause*. Next, make sure the button for *Specific Codes* is selected and choose **Fecal Coliform** from the drop-down list.

If you had clicked *General Codes*, you would have been able to choose from general cause categories, such as Metals and Pathogens.

3.   Select *TN06030003001_0500 Sinking Creek* from the Assessment Units box.

Now you can view the data associated with the AU by clicking the tabs in the same way that you did in the *Browse* feature. You can also click the *Manage Causes* button to add TMDLs, 303(d) IDs, Expected to Attain Dates, and Implementation Actions.

Note: Similar to AU IDs, 303(d) list IDs are unique identifiers for water segments. While 303(d) list IDs uniquely identify Category 5 waters, they can be separate from an AU ID.

4.   Click the *Manage Causes* button to the right of the ID list. The **Cause Information: 303(d)** screen will appear.

5.   Select the *Fecal Coliform* impairment in Category 5. Hold down the left mouse button and drag the impairment to Category 4A. The **Assign TMDLs** screen will appear.

        If this is your first time using the ADB, the list of TMDLs must be downloaded before you can view and assign TMDLs to an AU.

6.   Click the *Refresh TMDL Snapshot* button located midway on the right side of the page. The list of TMDLs will begin downloading. It may take a few minutes to complete.

        The most current list of EPA-approved TMDLs is kept in the National TMDL Tracking System (NTTS). Each time you refresh the TMDL snapshot, the ADB downloads a recent version of the TMDL list onto your hard drive; Therefore, you will want to click the *Refresh TMDL Snapshot* button every few weeks to ensure that you are viewing current TMDL information. The date of the last snapshot is located in the upper right corner of the screen.

7.	Scroll through the list of TMDLs until you find the **Sinking Creek TMDL**. Highlight the record.

8.	Select it and click *View TMDL Information*. This will open a new window and direct you to the TMDL stored on EPA's Web site.

9.	When you are finished viewing the TMDL, close the Internet window to return to the ADB.

10.	Now click *Assign TMDL to Cause*. A prompt will appear asking if this is a delisting. Click *No*.

The TMDL has now been associated with the AU.

11.	Close the Assign TMDLs, Cause Information: 303(d) and 303(d) Impaired Waters screens to return to the main ADB screen.

Adding Atlas Information

The *Atlas Information* feature allows the user to do the following:

- Include information for water types which may not be supported for individual assessment units (e.g., canals)
- Store the number of waterbodies as indicated by various geographic scales
- Report the total sizes of waterbodies according to several sources.

The data stored within the *Atlas Information* fields is independent of data related to individual AUs and therefore does not affect the assessment calculations or reports produced by the ADB. From the **Atlas Information** screen, you can view, create, update, and delete records.

1.	From the Main database screen, click on ***Atlas Information***.

2.	Click ***Add New*** to begin creating a new atlas record.

3.	In the "Add New Atlas Information" dialog box, enter the information displayed below.

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4.   When you are finished entering the data, click *Add*. A prompt box will appear indicating that the information has been added. Click *OK* to return to the **Atlas Information** screen.

New topic names may be added to the drop-down list by modifying the Atlas Information elements. To add new topic names, go to the *Modify* menu located in the tool bar at the top of the screen. Choose *Atlas Topic Items* from this menu. From here, you may add as many water types to each atlas topic as needed. Click *Cancel* to return to the **Add New Atlas Information** screen.

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5.   Highlight the record that you just created by clicking on the arrow next to the record. In the lower left corner of the screen, the atlas information for the selected record will appear. You can update the atlas information from these boxes. In this case, we are going to update the scale to 1:24K. Type in "1:24K" in the **Scale** text box in the lower left corner of the dialog box.

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6.   Click **Update** to save this information. A dialog box will open that says, "You are about to update the atlas information in the database. Continue?" Click *Yes* to confirm the update.

Notice that the scale column in the record has been updated to reflect the change you just made.

7.   Click **CLOSE** to return to the main **ADB** screen.

Mercury Reduction Strategy (5M) Documentation

The 5M documentation feature of the ADB allows you to add a 5M related website link (URL) and comments to the database using plain text or Rich Text Format (RTF). RTF allow you can create comments that are formatted for easy reading, as well as add color, bullets, bolding, underlining, italicizing, different fonts, and font sizes.

1.	In the main database dialog box, click on the *5M Documentation* button.

2.	Type the information below into the "Comment" dialog box and click the *Save* button.

The comments are now associated with the specific cycle. You can select the *View* button to open the weblink in Internet Explorer.

If you have an existing text or rich text file containing 5M comments, you can import them by using the *Get From File* button on the lower middle of the "Mercury Reduction Strategy Documentation" window. Use the "Choose Location" window to navigate to the location where the file is saved and click **Open**. The **Comments** text box should now contain the contents of your file. Click *Save* to associate the text with the cycle. You can also save the 5M comments to a separate text or rich text file by clicking the *Save to File* button and navigating to where you would like the file to be located. You can then use the *Open File* button to retrieve your saved comments.

3.   Click **CLOSE** to return to the main database screen.

Assessments

1.   In the main database screen, click the *Assessments* button.

When *Assessments* is selected from the main dialog box, the user is able to access assessment information for any AU in the database, and then view, add, update, or delete AU information from this screen. Assessment information associated with an AU may include designated uses, assessment metadata, causes of impairment (or observed effects), sources of impairment, and assessment category. You can access this information by using the buttons on the sidebar at the left.

2.   In the "Select an Assessment Unit" dialog box, choose *Dry Creek* from the **Or By Name** drop-down list and click *GO*.

Dry Creek is associated with several AUs, so you will need to select a specific AU before you can look at AU information.
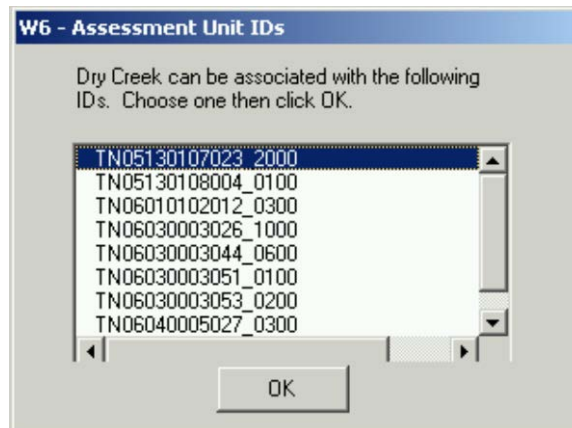
3.   Select *TN05130107023_2000* and click **OK**.
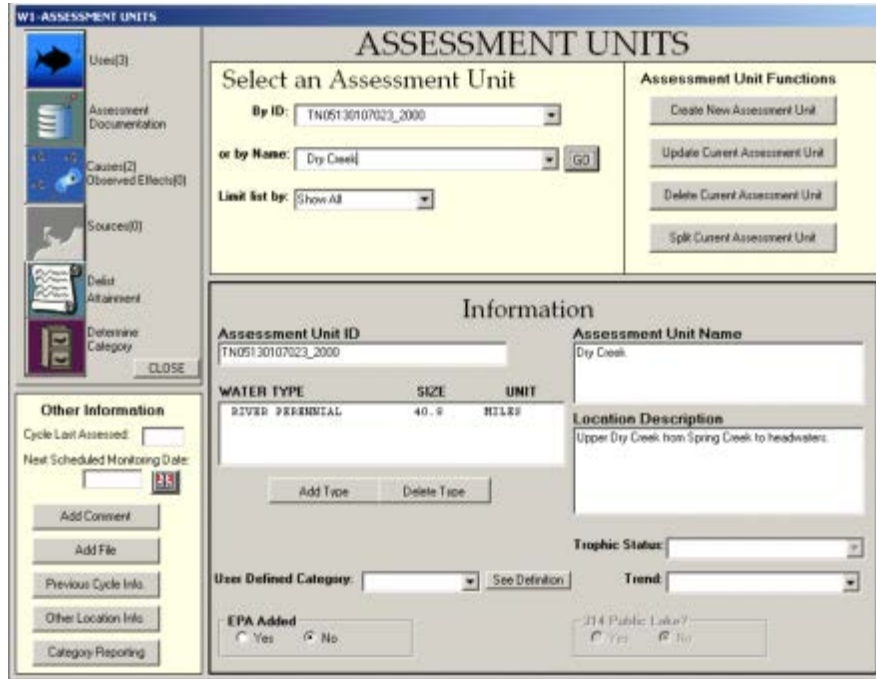
The database will retrieve information for the AU specified, displaying the *Assessment Unit ID*, as well as the *Location Description* and the *Water Type* and *Size*. The text beside the sidebar buttons indicates some additional information about the AU, such as whether there is information for each of those data elements and, if so, how many uses, causes, or sources exist. This sidebar indicates this AU has three uses and two causes of impairment.

Causes and Designated Uses

1.   Click on the *Causes* button.

Clicking on the *Causes* button from the **Assessment Units** screen gives you information at the AU level. The "Causes" dialog box indicates the causes for this AU are Iron and Manganese. Click on either of these to see the associated designated uses or double-click on either of them to view cause definitions.

2.   Click *Iron*, then on *Manganese*. Under *Associated Uses*, you can see that the *Fish and Aquatic Life* use is impaired by both of these metals.
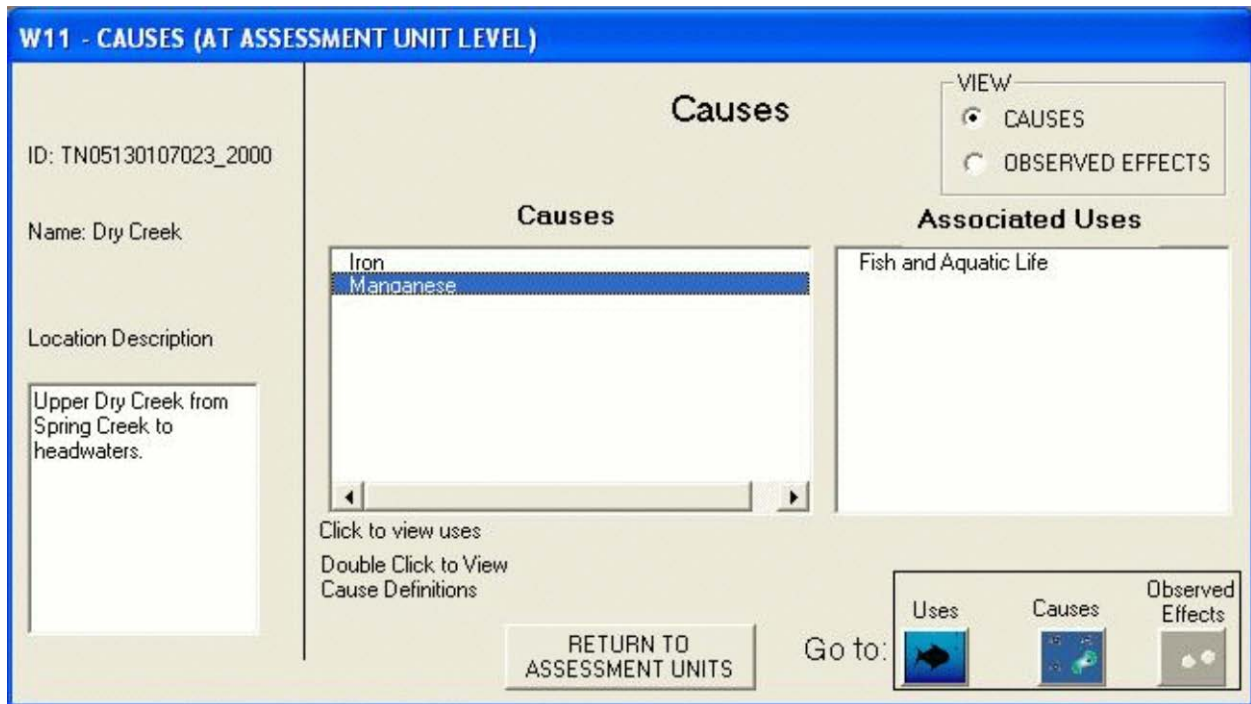
> 3. Click on the Uses button at the bottom right of the screen.
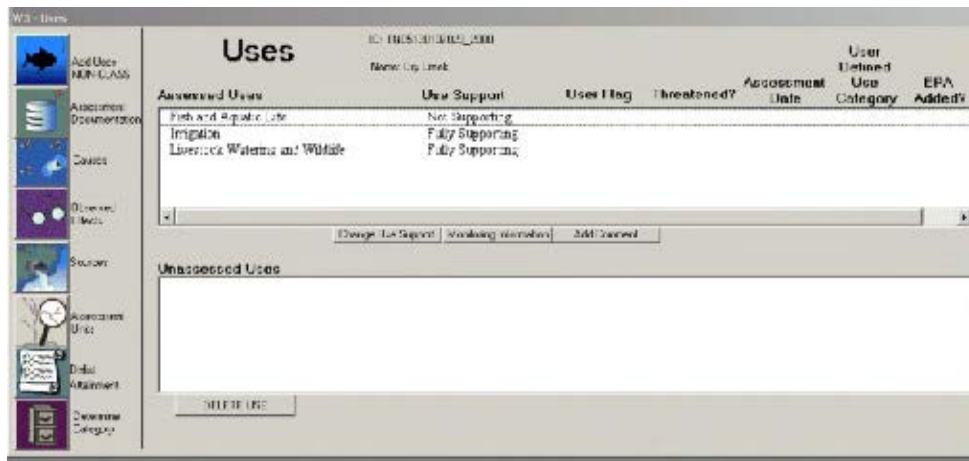
The **Uses** screen displays the designated uses that have been assigned to this AU. As you can see, this AU, whose *Fish and Aquatic Life* use is impaired by Iron and Manganese, is "Not Supporting" the designated use.

4.   Click on the *Assessment Units* button to return to the main **Assessment Units** screen.

Summary

In this exercise, you learned how to:

- View, sort, and export data in the ADB using the *Brows*e features
- View assessment information associated with impaired waters
- Add a Monitoring Strategy and/or Assessment Methodology document to the ADB
- Add Atlas Information
- View data in the ADB by using the sidebar buttons on the **Assessment Units** screen
- Manage causes using the Impaired Waters: 303(d) Information screen.

In *Exercise 2*, you will learn how to add new AUs to the ADB and how to assign designated uses and assessment information to these new AUs.

Exercise 2. Creating an Assessment Unit

This exercise will show you how to add a new AU to the ADBv2, how to assign designated uses, and how to enter use support information. It will also show how the ADBv2 automatically assigns the AUs to the categories defined in the Guidance, as well as how to export a category report table.

> 1.   Click the ***Create New Assessment Unit*** button on the **Assessment Units** screen. A dialog box will appear requesting that you add **Assessment Unit ID**, **Name**, and **Location Description**. All of these data elements are required. The database will not allow you to proceed without entering information in each box. Fill out the dialog box using the following information and then click **Add**.

*Note: If you are attending a class where you are using the ADBv2 over a network, each student must use his/her own AU ID. Otherwise, you will all be accessing the same record and cause problems with the exercise. The instructors will assign you a letter to use in place of the **x**. For example, if the instructors assign you the letter **A**, each time you see "AU-1**x**" use "AU-1**a**."*

Next, a dialog box will appear requesting you to add **Assessment Unit Information**. The **Water Type** drop-down list contains a number of different kinds of waterbodies that you can choose from to describe the water in your AU. Your AUs can be composed of multiple waterbody types. Define one type first, then you can define the others later. The **Size** units depend on the *Water Type* that you choose.

2.   Fill in the information according to the following example and click *Add*.

The information you just entered will be displayed on the **Assessment Units** screen.

Adding Des**i**gnated Uses, Use Support, and Assessment Metadata

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3.	Click the *Add Uses* button to assign designated uses to this assessment unit.

4.	Select the following designated uses (to select nonsequential items in the list, hold down the **Control** key) and click **ADD**.
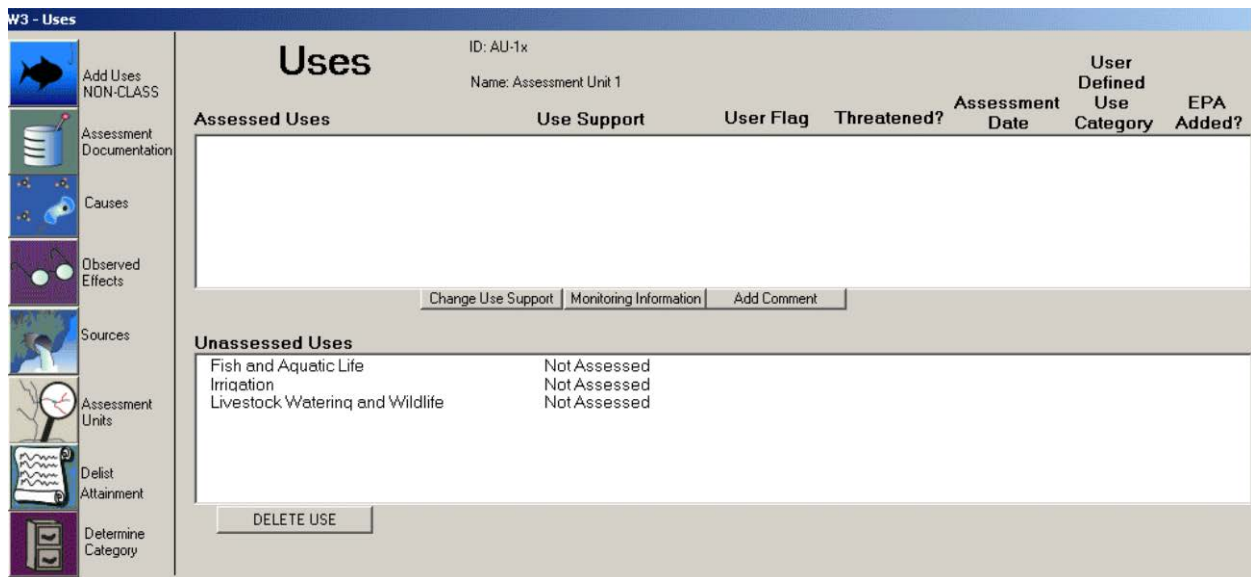
The **Uses** screen will appear. All newly added uses are defaulted to **Not Assessed**.

Note: The Designated Uses listed are from EPA's Water Quality Standards Database (WQSDB), which is populated with the data from the States' Water Quality Standards (WQS) documents. If

a Use is not specified in your WQS document, it will not be available in this list. For more information on the WQSDB, visit http://www.epa.gov/wqsdatabase.

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5.   Double-click on **Fish and Aquatic Life** to add an assessment to that **Designated Use**.
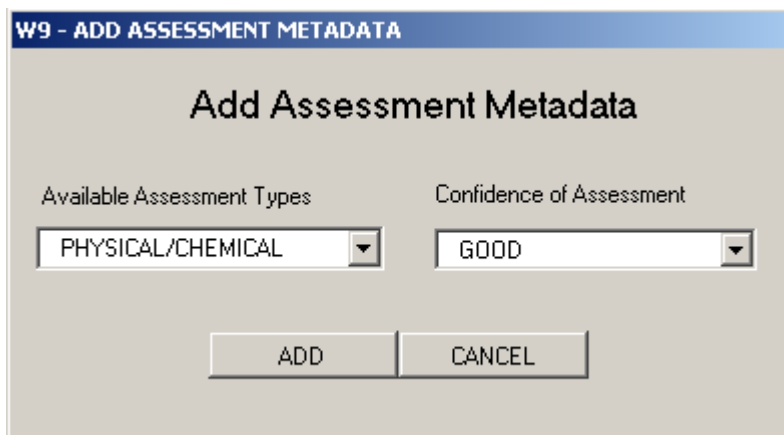

The **Assessment Documentation** screen will appear. This screen allows you to add use support status, assessment data, assessment types, assessment methods, user flags, and threatened status flags to the selected designated use. The *Use Support* field is always required for each designated use. All other fields are considered assessment metadata and are either conditionally required or optional.

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6.   In the **Use Support** drop-down box on the "Assessment Documentation" dialog box, choose **Fully Supporting**.

When use support status is changed from not assessed, assessment type and assessment confidence information must be entered as well before you can return to the **Uses** screen. *Available Assessment Types* and Confidence of Assessment are the only conditionally required metadata elements. Therefore, if you delete all of the assessment types associated with a designated use, the use support will be changed to "Not Assessed."

7.   Under "Assessments Performed," click on **ADD** to specify *Available Assessment Types* and *Confidence of Assessment*.

8.   A prompt box will appear to ask if you would like to save these changes. Click *Yes* and the "Add Assessment Metadata" dialog box will appear. Enter the information specified below:

There are seven assessment types available to choose from in the drop-down box: **Biological**, **Habitat**, **Physical/Chemical**, **Toxicological**, **Pathogen Indicators**, **Other Public Health Indicators**, and **Other Aquatic Life Indicators**. Further information on assessment types is available on page 21 of the ADB User's Guide.

Four levels of confidence or quality of the data used to make the assessment can be associated with these assessment types: Low, Fair, Good, and Excellent. How a state assigns assessment type and confidence should be explained in its Assessment Methodology Document.

9.   Click **ADD** to return to the **Assessment Documentation** screen.

Feel free to explore and enter other types of assessment metadata on this screen. For example, creating a user flag can be an invaluable tool for internal State data tracking because it can be populated as the user sees fit and has no effect on an AU's category. Some users have chosen this field to track designated uses that were "Partially Supporting" by the State. This field accepts free text and selections from the drop-down list (only populated if you have entered user flags for other designated uses in the database).

Note: Changing threatened status will change the designated use to be considered impaired, affecting the category definitions. Be sure to leave this button set to "No" when saving changes to the assessment metadata to avoid obtaining different category definitions in the following exercise section.

The user should be certain that a given metadata category is related to the specific use being assessed. For example, it would not make sense to have a *Habitat* assessment associated with a *Primary Contact Recreation* use. The State's Assessment Methodology Document should describe what types of assessment metadata categories can be associated with each WQS designated use.

We also know that the assessment took place January 1, 1998.

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10.   In the *Assessment Date* field, type **01/01/1998** in the text box.
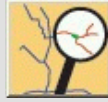

You can also use the "Calendar" icon to choose the assessment date that needs to be added.

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11.   Click *Save.* Then click the "Uses" icon to return the **Uses** screen.

The "Fish and Aquatic Life" use designation is now located under *Assessed Uses*.

12.   Click the "Assessment Units" icon in the lower left corner to return to the main "Assessment Units" dialog box.

13.   Click *Create New Assessment Unit*. Fill in the "Add Assessment Unit" dialog box with the following information and then click **Add**.

W2-ADD ASSESSMENT UNIT

Add Assessment Unit

Assessment Unit ID   Location Description

AU-2x   Bridge at Hwy 8 to county line

Assessment Unit Name

Assessment Unit 2

Add   Cancel

14.   For the *Waterbody Type*, select *Creek*, and enter **10** for *Size* in *Miles*. Click **Add**.

        This AU also includes a lake. You can add additional water types by clicking on the *Add Type* button just below **Water Type**.

15.   In the **Information** screen, click *Add Type*. Choose *Freshwater Lake* for *Waterbody Type* and **5** for the *Size* in *Acres*. Click *Add*.

16.   Now that the waterbody types have been added to the AU, we need to add uses. Click on the *Add Uses* button.

17.   Choose *Domestic Water Supply, Fish and Aquatic Life* and *Irrigation* for *Uses* (you can hold down the **Control** key to select nonsequential items in the list) and click *Add*.

18.   Double click on *Domestic Water Supply* under *Unassessed Uses* to add assessment information.

19.   For *Use Support*, choose *Not Supporting*. Click *Save*.

20.   In the "Assessment Documentation" dialog box, click *Add* under "Assessments Performed" to add assessment type and confidence.

Let's assume that the water in the AU has just been tested and was found to be contaminated with fecal coliform bacteria. This could be considered an "Excellent" confidence assessment type because it was based on recent water quality tests.

21.	For *Assessment Type*, choose **Pathogen Indicators** and for *Confidence of Assessment* choose **Excellent**. Click **Add**.

22.	In the *Assessment Date* field, type **01/01/1998** in the text box.

23.	Now click **Save** at the bottom of the screen and click the **Return to Uses** button:

Adding Data to Multiple Uses

1.	Use the **Shift** key to select both uses under *Unassessed Uses* in the "Uses" dialog box.

2.	Click on the *Assessment Documentation* button on the sidebar.

3.	Under the **Use Support** drop-down box, pick **Fully Supporting**. Click **Save**.

4.   Click the *Add* button under the "Assessments Performed" dialog box to add assessment type and confidence. Choose *Habitat* for *Assessment Type* and *Fair* for *Confidence of Assessment*. Click *Add*.

5.   Click *Save* at the bottom of the **Assessment Documentation** screen and click the *Return to Uses* button.

Summary

In this exercise, you learned how to add an AU and designated uses to the ADB. In *Exercise 3*, you will learn how to enter causes and sources into the ADBv2.

Exercise 3. Augmenting an Assessment Unit

In the last exercise, you added two AUs to the database, assigned designated uses, and entered information about use support. In this exercise, you will learn how to enter causes that affect use support and the associated sources of impairment.

So far, you have added an AU-2x that has two waterbody types and assigned three uses to the AU. Two of these uses are fully supporting based on a fair confidence assessment, and the other is impaired based on a high confidence assessment. Because **Domestic Water Supply** is not supporting, you will need to add the causes which have impaired this use.

Note: If you are restarting the tutorial after a break, go to the Assessment Units screen from the Main screen, in order to get to the "Uses" screen.

1.	In the **Uses** screen, highlight ***Domestic Water Supply*** under *Assessed Uses*. Then click on the ***Causes*** button on the left side of the screen to add causes of impairment.

It has been determined that this use is impaired for total coliform and sedimentation. To add these causes, you can choose the "Add Causes" icon on the left side of the screen or click the ***Add*** button under the "Double-click to show cause description:" dialog box.

2.	To add the total coliform cause, click on the ***Add Causes*** button on the left side of the screen.

<table>
<tr><td>3.</td><td>Click on the *SHOW ALL* button. Because we will be adding two causes, also select the *Multi-Select* button under *SELECTION OPTIONS*. Find and select *Sedimentation/Siltation* from the list. Hold the **Control** key down to select *Total Coliform* from the list as well.</td></tr>
</table>

Because there are about 500 causes in the database, look-up tables are available that enable you to choose from a shorter list under the *SHOW ONLY* button on the **ADD CAUSES** screen. You can also create custom groups for causes that are common in your state. In *Exercise 7*, we will explore how to create custom cause and source groups.

<table>
<tr><td>3.</td><td>Click the **ADD** button below the causes list to return to the **Causes** screen.</td></tr>
</table>

Sedimentation/Siltation and *Total Coliform* should now be associated with the Domestic Water Supply use for AU-2x.

Pollutant vs. Nonpollutant

Every impairment can be flagged as either a pollutant or a nonpollutant. Whether a use is impaired by a pollutant can affect an AU's category. By default, all causes will be flagged as pollutants. To change this causes default, click on the *Modify* menu, and select *Pollutants/ Nonpollutants*. If an impairment is defaulted as a nonpollutant, every time that impairment is added to a use, the pollutant flag will be set to "No." Changing the default pollutant status of a cause will not affect any causes already listed. Furthermore, the pollutant flag of a cause can be changed at any time.

Entering Sources for Causes

Thus far, we have entered the uses, use supports, and causes for **AU-2x**. In some cases, you may also be able to define the source of the cause. The ADB contains approximately 200 potential sources which were compiled from the 319 Nonpoint Source Program and the Office of Watershed Management Permitting documents.

For **AU-2x**, the source of sedimentation/siltation and total coliform is known to be *Permitted Runoff from Confined Animal Feed Operations (CAFOs)*.

---

1.   Highlight the *Total Coliform* cause.

---

2.   Click on the *Sources* button on the left side of the **Causes** screen:

Although we initially only highlighted *Total Coliform*, we can also choose **Sedimentation/Siltation** by highlighting both causes in the lower right corner of the screen.

---

3.   Under *Causes Affected*, make sure the boxes for both of the listed causes are checked (Use the **Shift** key to select and check them both).
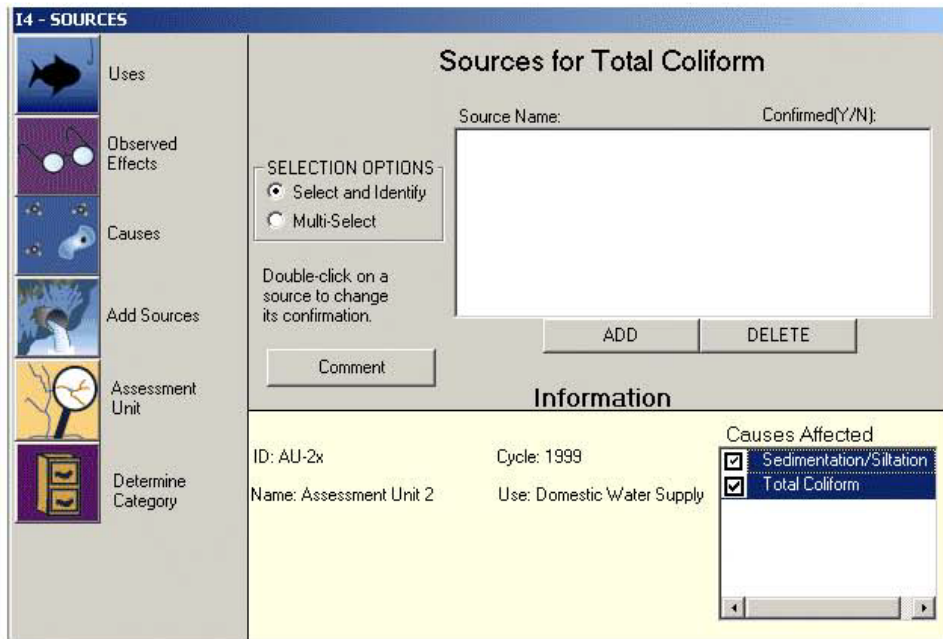
4.	Click the **ADD** button located under the **Sources** list box.

The **Source** list is organized in the same format as the **Causes** list. When adding causes, we looked through all of the causes to find *Sedimentation/Siltation* and *Total Coliform*. To add the sources, we will use the existing source groups to locate our source.

5.	Click on the *SHOW ONLY* button and choose **Agriculture-Animal Feeding/Handling Operations** from the drop-down list.

|	
6.	Select *Permitted Runoff from Confined Animal Feed Operations (CAFOs)* and click **ADD**. The selected source will appear in the text box for **Sources for Total Coliform**.
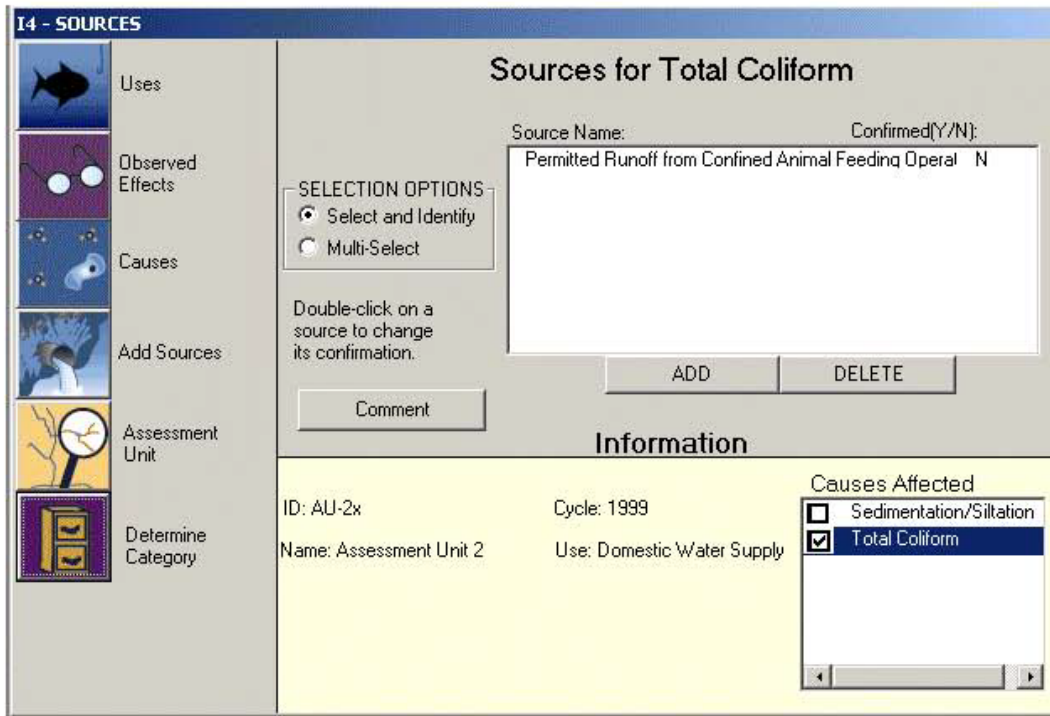
7.   In the text box, highlight ***Permitted Runoff from Confined Animal Feeding Operations***. Both ***Sedimentation/Siltation*** and ***Total Coliform*** should become checked and highlighted under the ***Causes Affected***.

Changing Source Confirmation

The "Confirmed" heading beside the source name defaults to "Not Confirmed," allowing the user to enter a suspected source and confirm it later. A confirmation could be made after the development of a TMDL or after other information is obtained; however, it is not necessary to wait for the development of a TMDL if the information is already accurate enough to confirm the source.

1.	To change a source's confirmation, return to the Assessment Units screen by clicking on the *Assessment Unit* button on the left side of the screen. Then click on the *Sources* button on the left side of the Assessment Unit screen.
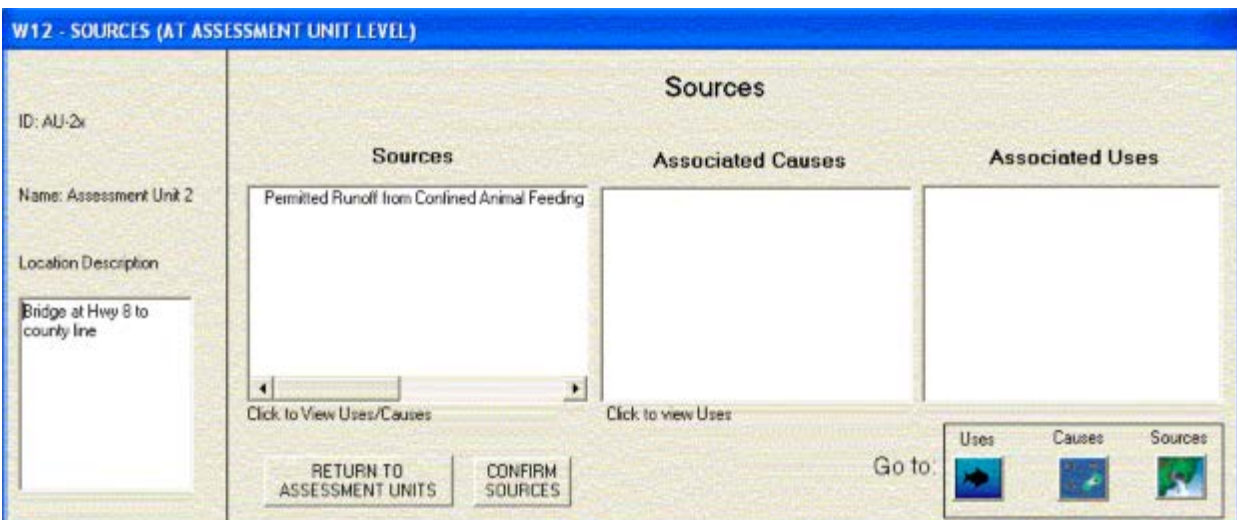
2.	Select the Source from the Source list that you want to confirm and click the *Confirm Sources* button on the bottom of the screen.

3.	This will take you to the Confirm Sources screen and display which Sources are confirmed and which are suspected. You can see that the *Confirm* radio button is selected in the Confirm or Suspected box. Click *Close* on the bottom right side of the screen to return to the Sources screen.

4.	Click the *Return to Assessment Units* button. Click on the *Uses* button on the left side of the Assessment Units screen. Select the Domestic Water Supply Use and click *Causes* on the left side of the screen to begin managing the 303(d) Information.

Managing 303(d) Information

From the **Cause Information: 303(d)** screen, you can manage AUs that you designated as "Not Supporting" a designated use. Causes are defaulted to the *Category 5* column in the "Cause Information: 303(d)" dialog box. However, from this screen you can move a cause as needed into the *Category 4B* and *Category 4A* columns. The **Cause Information: 303(d)** screen can also help you determine which uses have not yet been assigned associated causes.

1.   Click the ***303(d) Information*** button located in the lower center of the ***Causes*** screen.

The Cause Information: 303(d) screen will appear.

Total Coliform is expected to no longer impair AU-2x by 2004; therefore, we can move this cause to the *Category 4B* column because we have an **Expected to Attain Date**.

2.   Select ***Total Coliform*** from the *Category 5* column. Hold down the left mouse button and drag the cause to the *Category 4B* column.

The **Assign Expected to Attain Dates** TMDL Alternative Documentation screen will appear. The default values for the **Cycle by which attainment will take place** standards will be attained and **Cycle when monitoring will next take place** will be the next reporting cycle. Users can also provide a related URL and designate whether the pollutant source is a point source, non-

point sources or both. If point source or both is selected the user can also enter in associated NPDES IDs and other point source information.

---

3.   Change both dates to 2004 and click **UPDATE**. Click *OK* when you get an "Update Complete" message.

---

*Note: Both of the cycle dates are required. You can accept the default or add a different cycle. If you delete one or both of the cycle dates, the validation check (discussed in **Exercise 5**) will give you a message saying there are dates missing.*

---

4.   A message prompt will appear and ask if this is a delisting. Click *Yes*.

        A delisting occurs when an AU is removed from the State's 303(d) list for a particular cause of impairment (in this case, *Total Coliform*). The **Delisting Information** screen allows you to keep track of causes that were previously listed, the dates of delisting, and the reason or rationale for delisting.

---

5.   Because the delisting was prompted by moving ***Total Coliform*** to the *Category 4B* column (expected to meet attainment), the delisting reason has already been populated. Click **UPDATE**, then click **CLOSE**.

---

*Note: The Delisting Reasons provided in the drop-down box on the **Delisting Information** screen are taken from the Summary Rationale for Listing/Delisting in the Guidance.*

The **Cause Information: 303(d)** screen will now reflect the changes you have implemented.

Users may also add 303(d) list IDs and TMDLs through the **Cause Information: 303(d)** screen. To add a 303(d) list ID, click on a cause under the *Category 5* column and click the ***View Information*** button. To enter a TMDL, click and drag the appropriate cause to the *Category 4A* column and the **Assign TMDLs** screen will automatically open. To add a TMDL, scroll through the list or use the *Search* feature to locate the TMDL that matches the AU. Select it and click ***Assign TMDL to Cause***.

You may remember from ***Exercise 1*** that the list of TMDLs is populated using information from the NTTS. Because we have added AU-2x for the purposes of this tutorial, no matching TMDL will be found in the list. Instead, we will use the **TMDL Information** screen to indicate that creating a TMDL for AU-2x is a high priority.

6.	Click **CLOSE** to exit the **Cause Information** screen and return to the **Causes** screen.

7.	Highlight **Sedimentation/Siltation** in the text box. Several elements on the screen that were previously grayed out should now be accessible.

8.   Click on the **TMDL Information** screen on the upper right side of the screen. The
        following screen should appear:

9.   Select *High* from the **TMDL Priority** drop-down box. Click the **UPDATE** button to
        save the changes.

10.   An **Update Complete** message prompt will appear. Click **OK.**

11.   Click the **CLOSE** button on the *TMDL Information* window to return to the **Causes**
        screen.

12.   Click the "Assessment Units" icon on the left side of the screen to return to the main
        Assessment Units screen.

Determining Assessment Categories

EPA's Guidance calls for all water quality attainment statuses to be fully described for each AU on the basis of a five part categorization of use support. As with previous guidance documents, assessment category is fundamentally decided at the designated use level. The ADBv2 will automatically assign AUs to the appropriate category based on information you enter about the use support rating of the AU. You can view the category definition assigned to an AU at any time by clicking on the *Determine Category* button in the sidebar or read a detailed description of each category in the Guidance by selecting *Show Category Definitions* from the *View* menu.

1.	Make sure that you are still viewing AU-2x assessment information. Click on the "Determine Category" icon:

A text box will appear indicating that the AU is in *Category 5*. This shows that the AU is not attaining at least one of its designated uses (**Domestic Water Supply**).

2.	Click **OK**.

3.	On the *View* drop-down menu, click on *View* and select *Show Category Definitions*. Select *Category 5* from the **Select a Category** drop-down list.
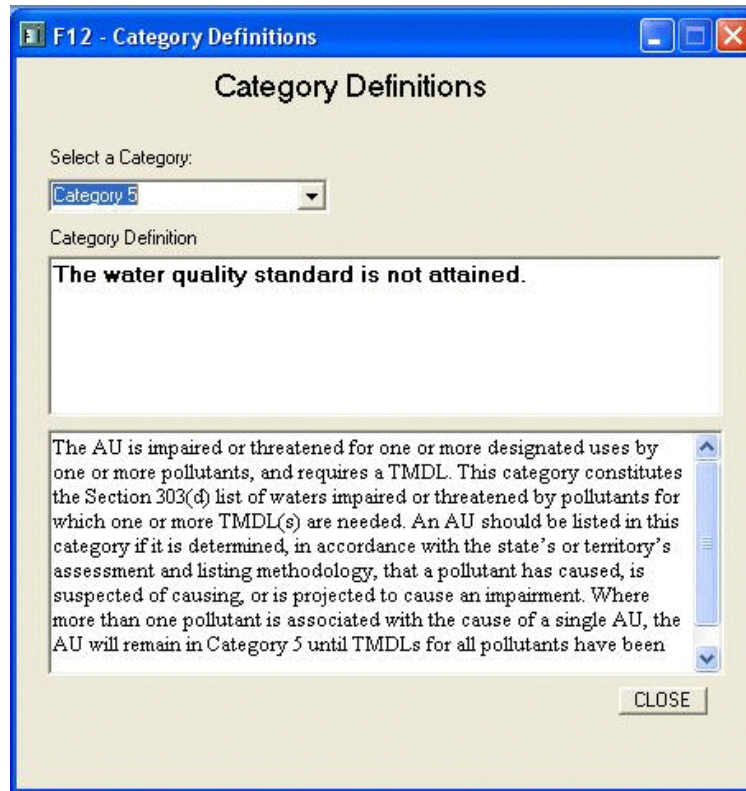
4.   Look at several more of the categories, and click **CLOSE** when you are finished.

You can also view the categories of each individual use. Users can determine the attainment of AUs at the AU level, the Uses level, and the Causes level by switching from Single Category Reporting (assessment-level category determinations) to Multi-Category Reporting (use- and cause-level category determinations).

5.   In the bottom left corner, click the ***Category Reporting*** button.

The **Assessment Unit Category Reporting** screen will appear. Any modifications performed on this screen are specific to the AU-2x assessment unit and are not applied to all AUs in the database.

6.   Select the ***Multiple Category*** button. Check both boxes beneath the *Multiple Category* option to view categories at both the uses and causes level.

7.   Click **UPDATE**, then click **OK** to return to the **Assessment Units** information page.

8.   Click on the "Determine Category" icon:

The text box should look like:
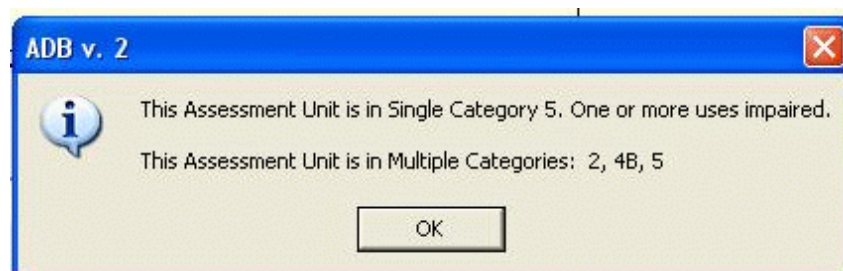
9   Click **OK** to close the dialog box.

Updating Assessment Information

The ADBv2 allows a user to update an AU's data through the **Change Use Attainment** screen. For instance, you could receive some new data about the AU you have entered that leads you to believe the water quality standard for *Fish and Aquatic Life* is threatened for this AU. This would mean that the AU is currently attaining its water quality standard for the *Fish and Aquatic Life* use, but that you predict it will not be attaining the water quality standards by the next reporting cycle.

1.	From the **Assessment Units** screen, specify **AU-1x** is as the *Assessment Unit ID*.

2.	Click on the *Determine Category* button: Please note that the AU is currently in Category 2. Click **OK**.

3.	Now click on the *Uses* button**:**

4.	Highlight *Fish and Aquatic Life* in the "Assessed Uses" dialog box. Under the dialog box, click on the *Change Use Support* button.

5.	In the "Use Attainment" dialog box, click **YES** under *Threatened* and then click the **CHANGE** button.

The **Uses** screen now indicates that *Fish and Aquatic Life* are threatened.

6.	Now click on the ***Determine Category*** button**:**

7.	You will notice that adding a *Threatened* designation to the AU moved it from *Category 2* to *Category 5*. Click **OK** in the message box.

8.	Click on the ***Assessment Units*** icon. In the bottom left corner, click the ***Category Reporting*** button.

9.	Select the ***Multiple Category*** button. Check both boxes beneath the *Multiple Category* option to view categories at both the uses and causes level.

10.	Click ***Update***, then click **OK** to return to the *Assessment Unit* information page.

11.	Click on the ***Determine Category*** icon:

The AU should now be in *Category 3* and *Category 5*.

12.	Click *OK*.

Summary

In this exercise, you learned how to add causes and sources, manage 303(d) information, and associate delistings with AUs. You also learned how attainment categories are determined based on varying assessment information.

In the next exercise, you will learn about the Connections Module and how you can use it to connect to data in tables outside of the ADBv2.

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Exercise 4. Additional Features of the ADB

This exercise focuses on illustrating additional data storage and data export areas in the ADB, such as where to add additional locational information, comments, files, observed effects, or implementation actions to AUs, as well as how to export category data.

---

1.   From the main ADB screen, click the *Assessments* button to access the **Assessment Units** screen.

Adding Other Location Information

The ADB allows you to enter **Other Location Information**, including hydrologic unit code (HUC), county, and latitude/longitude. Unlike the *Location Description* field you filled out in *Exercise 2*, no fields in the "Additional Locations" dialog box are required for creating an AU.
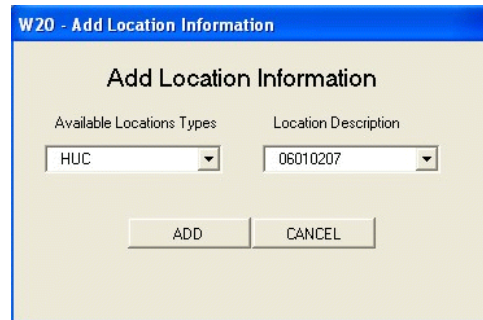
---

1.   Choose *AU-1x* as the *Assessment Unit ID* in the **By ID:** drop-down list.

---

2.   Click the *Other Location Info* button in the lower left corner of the screen. The **Additional Location Information** screen will appear.

3.   Under the "Location Descriptors" dialog box, click the **ADD** button.

4.   Fill out the "Add Location Information" dialog box as shown below.

5.   Click **ADD**.

"Additional Locations" should now include the HUC you just added. You may add as many location descriptors as needed.

To add location types or location descriptions to the list available in the drop-down box, go to *Modify > Locations* in the toolbar at the top of the screen and add the respective locational types and descriptions.

6.   Click *CLOSE* to return to the "Assessment Units" dialog box.

Adding Comments

ADBv2 allows you to add comments to AUs using Rich Text Format (RTF). This means that you can create comments that are formatted for easy reading, as well as add color, bullets, bolding, underlining, italicizing, different fonts, and font sizes.

1.   Click on the *Add Comment* button in the lower left corner of the **Assessment Units** main screen. The **Comment** screen will open.

2.   Type the information below into the "Comment" dialog box and click the *Save to AU* button.
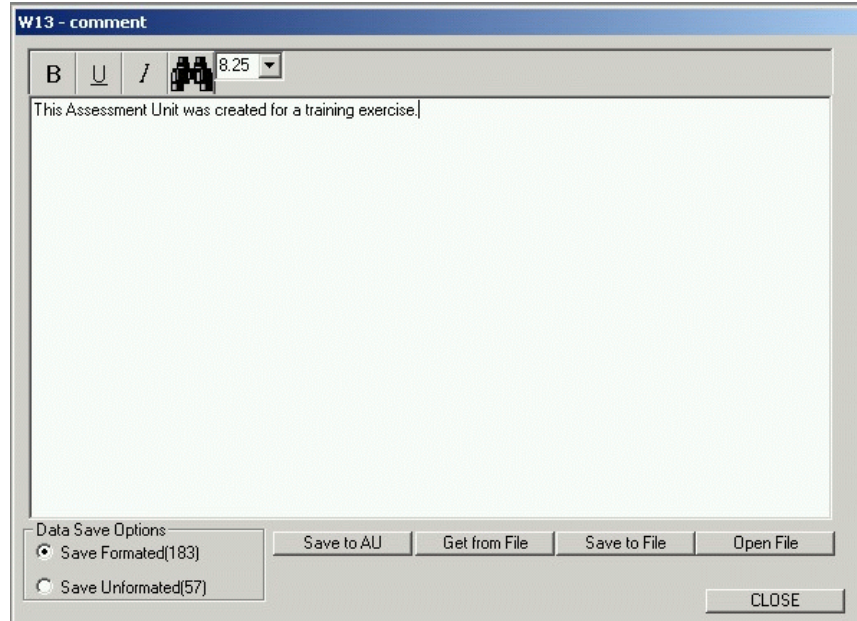
The comments are now associated with the AU. You can access this information in the main **Assessment Units** screen by clicking on *View Comment*.

If you have an existing text or rich text file containing AU comments, you can import them by using the *Get From File* button on the lower middle of the "Comments" window. Use the "Choose Location" window to navigate to the location where the file is saved and click **Open**. The **Comments** text box should now contain the contents of your file. Click *Save to AU* to associate the text with the AU. You can also save comments from the AU to a separate text or rich text file by clicking the *Save to File* button and navigating to where you would like the file to be located. You can then use the *Open File* button to retrieve your saved comments.

3.   Click **CLOSE** to return to the main **Assessment Units** screen.

Implementation Actions

For AUs that you have moved to Category 4B and entered an **Expected to meet standards by** date, you can also include an implementation action. Implementation actions can help define what a State plans to do for waters that are expected to attain its standards. There is no set list of approved EPA implementation actions, but rather a State should enter what seems practical. All implementation actions require a date by which the action will take place.

1.   Choose **4B** from the **Limit list by** drop-down box in the "Select an Assessment Unit" dialog box.

2.   In the **By ID:** drop-down list, select **TN06030003060_1000**.

3.	Click on the "Uses" icon.

4.	Highlight **Recreation** under the "Assessed Uses" dialog box, then click on the **"**Causes" icon.

5.	Click on the *303(d) information* button in the middle lower portion of the screen.

6.	Highlight **Nitrogen, nitrite** in the *Category 4B* column and click on the *Implementation Actions* button.

7.	When the **Implementation Actions** screen appears, click the *Add Implementation Action* button.

Like the *Comments* feature, you can type implementation actions directly into the database or import a text file that you have previously created.

8.   Click the *Add Action* button and use the calendar feature to choose February 1, 2006. A message prompt will appear asking if you would like to continue because the **Action Date** is after the **Expected to Attain Date**. Click *Yes*.

9.   Next, click the *Get From File* button and select the **implement.rtf** file located in the *ADB_Sampledata* directory.

10.	Click the *Save Action* button and then click **OK** when you get the "Save Successful" message.

11.	Close both of the **Implementation Actions** screens. Close the **Cause Information** screen.

Observed Effects

Observed effects are monitoring observations that may indicate a decline in water quality, but that may not be defined in the State WQS as an impairment. Observed effects are added to a designated use similarly to the way causes are added; however, observed effects can be added to uses that are "Fully Supporting" and/or not threatened, whereas causes cannot. Some examples of observed effects include Secchi Depth measurements or fish kills.

1.	Click on the "Uses" icon.

2.	Highlight **Irrigation** in the "Assessed Uses" dialog box, then click the "Observed Effects" icon.
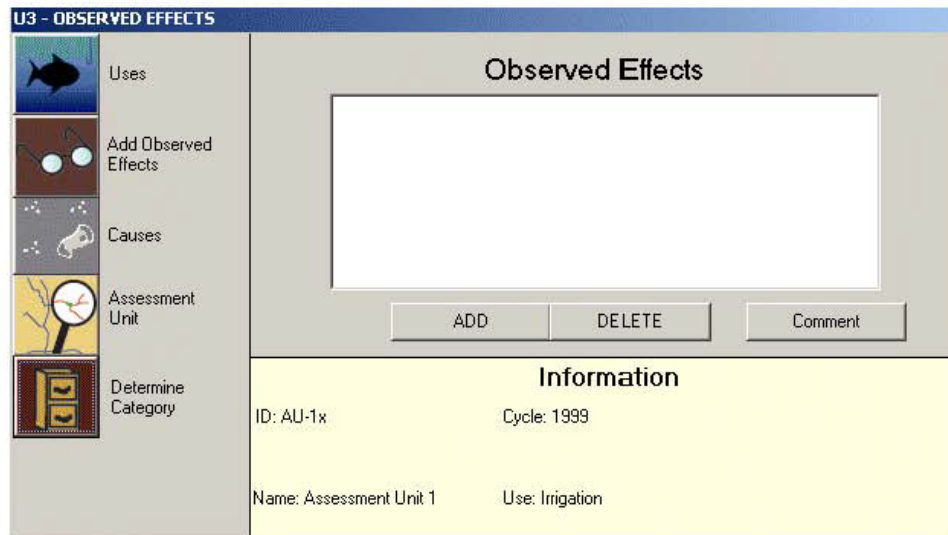
In this example, there are signs of a nutrient problem in the lake (e.g., a nuisance algal growth). Although the nutrient causing the problem is unknown, it is suspected that it is phosphorous runoff from a nearby field. However, until further studies can be conducted, you might not want to label phosphorous as the nutrient of concern. Instead, you could enter **Algal Growth** as an observed effect. This way you could include a comment noting that phosphorous is the suspected impairment, but that additional investigation should be performed.

3. Click the **ADD** button under the "Observed Effects" dialog box. The "Observed Effects" that are currently being used will be shown by default.

4. Click the *SHOW ALL* button in the "CHOOSE ONE" dialog box.

5.   Select ***Excess Algal Growth.*** Click the **ADD** button. The observed effect will appear in the "Observed Effects" dialog box.

6.   Click the "Assessment Unit" icon to return to the main **Assessment Units** screen.

Making a Custom Cause Group

        Custom cause groups allow the user to group several causes that may, for instance, be of particular concern to health officials or are frequently associated with each other. You may create as many custom cause groups as needed to expedite the data entry process.

1.   On the menu toolbar, click on ***Modify->Look-up Groups->Cause***.

2.   In the **Cause Groups** screen, type **Group 1***x* *(Note: Use the same letter you have been using for AU ID)* in the **New Group Name** text box and click on ***Create Group***. **Group 1x** will appear under the **Group Name** text box.

3.	**Group 1x** will contain causes that are of particular concern to public health officials. Click the *Show All* button and a list of causes will appear under **Name**. Choose *Aldrin* and *Arsenic* and click the down arrow.

The down arrow will move the impairment to the box at the bottom of the screen, which displays the causes included in the group that you create.

4.	Click on the *Show Only* button and select **Pathogens** from the drop-down list. A list of pathogens will appear under **Name**.

5.	Select *Total Coliform* and click the down arrow. Click **CLOSE** at the bottom to close this dialog box.

You have now created a custom cause group. To add these causes to an AU, select the **SHOW ONLY** button on the **ADD CAUSES** screen and highlight **Group 1x** in the drop-down list. Custom source groups can be created in the same fashion as custom cause groups under *Modify->Look-up Groups->Source.*

Export Category Listing

The ***Data Exports*** menu allows you to produce five different lists of AUs and save them as a .csv file. The available exports include the following:

- **303(d)** ▪ AUs on the 303(d) list.
- **Category 4A** ▪ Impaired or threatened AUs that have a TMDL.
- **Category 4B** ▪ Impaired or threatened AUs that are expected to meet the standards.
- **Category 4C** ▪ Impaired or threatened AUs that need a TMDL.
- **Category List** ▪ All AUs and their categories.

1.	Go to the menu toolbar and select ***Data->Data Exports***.

2.	Choose **Category Listing** from the drop-down list and click the **Export Data** button.

---

3.   Save the category.csv file in your c:/ADB_sampledata directory. Note that this will
        overwrite any files previously saved with the same name.

---

4.   Close the "Data Exports" dialog box when the **Exporting Data** status bar is no longer
        visible.

---

5.   If you have MS Excel on your machine, try opening the **category.csv** file. (In MS Excel,
        choose *All files (*.*)* from the **Files of type** drop-down list.)

        If you have a GIS coverage with the same IDs that are stored in the *Assessment_Unit*
field, you can join this table to your GIS coverage and display the categories for your state·s
waters.

Adding Files to Assessment Units

        The ADBv2 also allows you to associate graphics or other types of files with an AU. You
can add a .jpeg that shows a picture of the site where the assessment was performed or a lengthy
document describing the AU. To associate a document with an AU, click *Add File* on the lower
left side of the **Assessment Units** screen. There is no limit to the number of documents you can
add to an AU; however, keep in mind that Oracle may not be the most efficient way to store a
large number of documents. It may be more efficient for you to store documents on an NT server,
rather than in your database.

---

1.   Close the **Assessment Units** screen, then close the ADB.

Summary

      In this exercise, you learned how to enter additional information into the ADB, how to export category information and create cause and source groups. You also learned how to add files to an AU.

Exercise 5. Using the Connections Module

The Connections Module is designed to help you work with your data outside of the ADBv2 environment, and it will also allow you to work with data in other databases. The Connections Module enables the user to directly access the ADB database and view ADB data in table format. These tables can also be exported for analysis outside of the ADB. Additionally, the module allows the user to link to tables in other databases (e.g., Oracle, MS Access, SQL Server, or any MS Open Database Connectivity-compliant database), which enable these databases to be viewed in the ADB. For example, this connection is useful if you want to store information about the State basin in which an AU is located.

This feature is solely for the convenience of the ADBv2 users. Any data accessed through the Connections Module will not be included in the electronic submission to EPA.

In this exercise, you will learn how to view tables within the connections module and bring a table into the ADB. You will also learn how to use custom queries to create tables that can be exported into a .csv text file, which can then be used to limit the AUs viewed in the database.

Creating a New Database Connection

The MS Access database you will be using contains some assessment information that was collected in the field. It is stored in a single table called *TN_streams* in the MS Access data file.

1.	Open the Connections Module by clicking on *Start->Programs->ADBv2 for [version] ->Connections*. An interface with a **Tables** tab and a **Views** tab will appear.

2.	From the *File* menu, select *Connect to Database.*

3.	In the "Connect to a Database" dialog box, click on the *Create New Connections* button and then click **NEXT**.
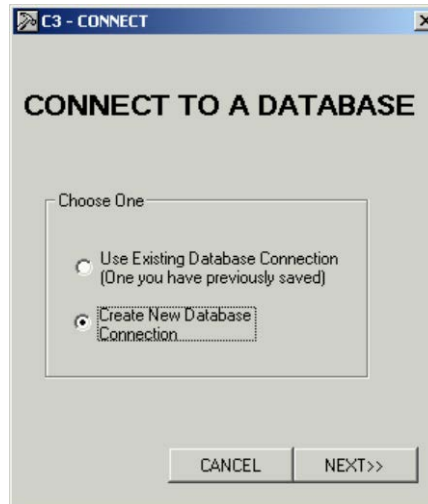
4.   From the "Connection Type" dialog box, choose *Microsoft Access* and click **NEXT**.

5.   In the "Connect to Access" dialog box, click on the navigation button and [...]
        navigate to the TN_streams.mdb database in your "ADB_sampledata"
        folder. Click *Open*.

6.   Next, check the Save Connection on Finish check box. This will allow you to use the
        same connection later after you close the ADB.

7.   Click Test Connection. This will let you know if the database connection is working
        properly. You should get a message saying "Test Successful." Click OK, then click
        Finish in the "Connect" dialog box.

8.   You will be prompted to name your database connection. Call it **TN_streams**. Click *OK*.
        The *Scenic_rivers* table will appear in the **Tables** tab.

9.   Select the *Scenic_rivers* table, then right click on it. Choose *Open*. The *Scenic_rivers*
        table will open.

In this example, the ***Scenic_rivers*** table contains information about AUs, including state basin and whether the stream is designated as a scenic river ("-1" indicates a scenic river, "0" indicates that it is not a scenic river.) Although these data cannot be stored in the ADBv2, it is easy to connect to a table storing these data and update the data while you work in the ADBv2. To work with this table, you may access the following functions by making a column active:

- Sort Ascending/Descending
- Copy/Paste
- Filter
- Find
- Export Data

10.	Make the *STBASIN* column active by clicking on the column heading and then right clicking on it to open the drop-down list.

11.	Click the Sort Ascending button. The records in the table get sorted based on the state basin column.

12.	Close the table by clicking the **X** in the upper right corner.

Creating a Table/Database Connection

Now that you have created a database connection to **TN_streams**, you need to make a connection between the table in the database, *Scenic_rivers*, and the ADB. You must also tell the ADBv2 how the fields in the *Scenic_rivers* table relate to the AUs. In this case, the *AUID* field in the table corresponds to AU ID in the ADB.

1.	Make the *Scenic_rivers* table active by selecting it with your mouse. Right click on the word *Scenic_rivers* in the **Tables** tab. Select *Make New Table Connection*.

2.	Name the connection **Scenic_rivers** and click **NEXT**.

3.	In the **Limit Connection** screen, choose **AUID** from the drop-down list beside *Limit By: Assessment Unit ID*.

The "Limit By:" dialog box defines the relationship between the *Scenic_rivers* table and the ADB. If the table has a *Cycle* field or a *TMDL ID* field, you can further limit the records your table displays. Relate the cycle field in your table to the cycle in the database. The table will only show records for the current cycle in the database. You can limit the records by TMDL ID in the same way.

4.   Click *Finish.* When prompted, make sure the table connection is still called *Scenic_rivers* and click *OK*.

5.   Close the Connections Module by clicking the **X** in the upper right corner.

Bringing a Table into the ADB

1.   Open the ADB by going to the *Start* menu and clicking on *Programs -> ADBv2 for [version] ->ADBv2*. Click on the *Assessments* button from the main database menu.

2.   From the *View* menu, choose *Show Connections*. From the **Existing Connections** screen, select the *scenic_rivers* entry and click **OPEN**.
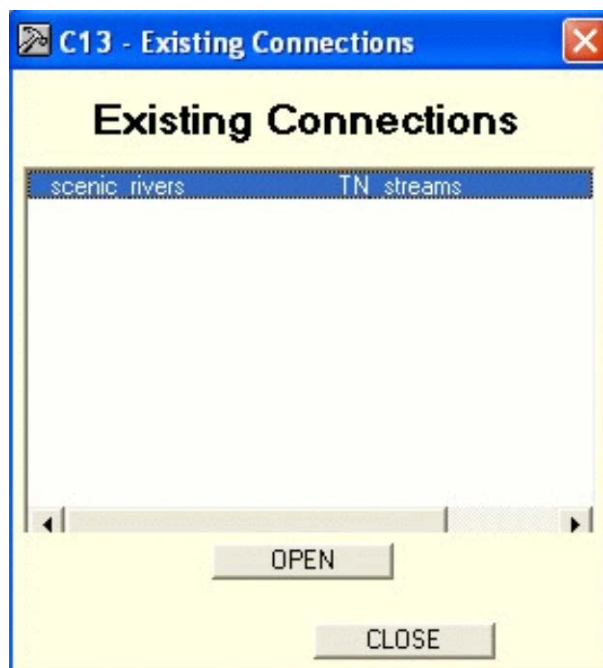
3.   Click *Yes* when you are asked if you want to enforce limits for the connection.

        The table can be resized so you can view both the table and the **ADB** screen. If you click on the **ADB** screen, it will appear on top of the *Scenic_rivers* table. After you resize the box, drag it to either the top or the bottom so you can make it active from the **ADB** screen. As long as a part of the table is visible on the screen, you can click on it to make it active.

You can view the records as a form by clicking on the *View as Form* button. If the *View as Form* button disappears as a result of resizing the table, close the table and reopen it by going to *View->Show Connections* and choosing the table.

One advantage of connecting to the table is the ability to enter information into the table at the same time as you enter the AU data into the database.

4.	Close the *Scenic_rivers* table by clicking the **X** in the upper right corner.

Exporting Data

Another feature of the Connections Module is the ability to export data from the ADB to MS Access and/or SQL Server. You can also choose to export the data as a .csv text file, which is illustrated in the following example.

For this example, let's say that a water quality manager asks the question: *Which AUs are listed in Category 5 for iron, specifically for the designated use Fish and Other Aquatic Life?* In *Exercise 1*, you were able to use the ADB's *Browse* feature to view, sort, and filter the data in table format; however, the *Browse* feature limits the user in performing more custom queries required for answering questions such as the one above. By being able to interact directly with the ADB tables, the user is able to directly select out data to create a new table that specifically answers the questions you want to ask.

1.	Return to the Connections Module by clicking the hammer icon at the top of your screen, or access this module through *Start->Programs->ADBv.2 for Access->Connections*.

2.	Choose *File->Connect to Database*. Click on *Create New Connection* and click **NEXT**.

3.	Choose *Microsoft Access* and click **NEXT**.

4.	In the "Connect to Access" dialog box, click on the navigation button and navigate to the ADBaccess.mdb database in C:/ADB_SampleData and click *Open*.

|	
5.	Next, check the **Save Connection on Finish** box. This will allow you to use the same connection later after you close the ADB.

6.	Click *Test Connection*. You should get a message saying "Test Successful." Click *OK,* then click *Finish* in the "Connect to Access" dialog box.

7.	Name the connection **ADB**. Click *OK*.

From this point forward, this connection will be available through the *Existing Connections* option, and you will only need to enter the password to access it.

Performing Queries Through the Connections Module

1.	Click on the **Views** tab and select the *Category5_Causes* view.
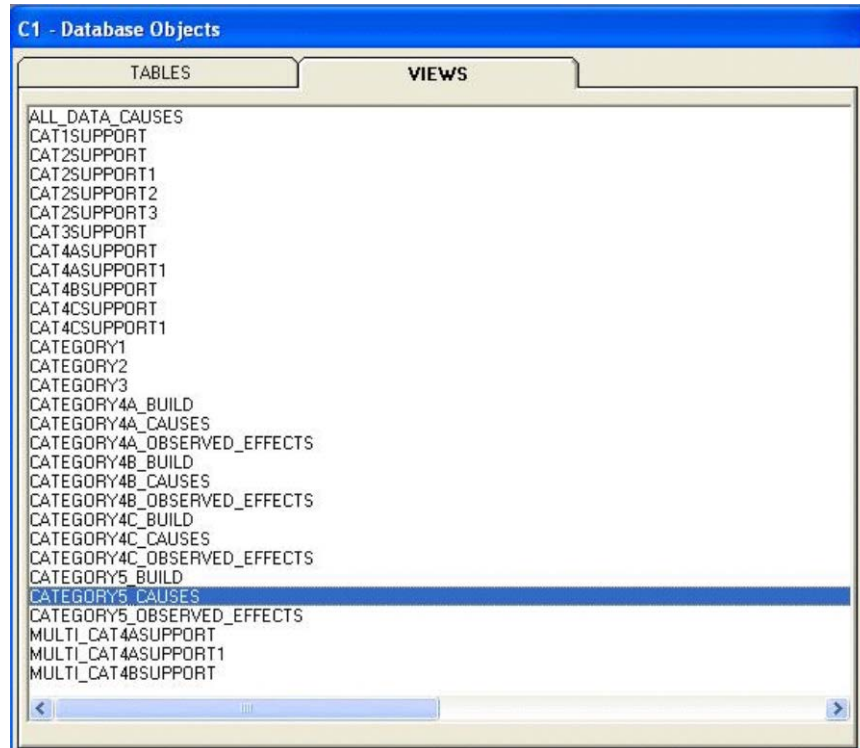
2.	From the *Connections* menu, select *Advanced SQL.* The "Advanced SQL" dialog box allows you to create a custom query.

3.	Check the boxes beside: *ID305B, CYCLE, WATER_NAME, USE_DESC, ATTAINMENT_DESC, THREATENED_FLAG, CAUSE_NAME, SOURCE_NAME*

4.	Check the *Select Unique Records* box.

5.	Under the "Where:" dialog box**,** select **STATE** from the drop-down list and enter **TN** in the box to the right of the **=** sign. Click the **ADD** button.

So far, your SQL structure should look like this:

6.	Under "Where:," Select **CAUSE_NAME** from the drop-down list and enter **Iron** in the box to the right of the = sign. Click the **ADD** button.

*Note: Instead of entering values at the right of the = sign, you may use the **GET VALUES** button to access a drop-down list to choose values from a selected list; however, this may be a slower option than entering the values directly.*

This statement will retrieve from the database all the AUs in the Category 5 causes that are in Tennessee and are impaired by iron. If you save this query, you will be able to recall this SQL string at any time in the future. Additionally, because it is a live connection to the database, updating the database will also update the query results.

7.   Click the **TEST** button.

This will show you what the table will look like. (You may need to scroll to the right to see all the fields.) Please note that there is data from both cycles (1999, 2000) in the table. Also note that although this is a table of Category 5 causes, one of the AUs is listed as *Fully Supporting*. This is because the "Y" in the *Threatened_ Flag* field indicates it is *Threatened*, which puts it in Category 5.

8.   Close the table by clicking the **X** in upper right corner.

9.   Click the **SAVE** button. Save the query as **IronFilter** and click **OK**.

10.   From the *Connections* menu, choose *View Saved SQL Scripts.* (This table can be accessed this way at any point in the future.) Double click on *IronFilter*.

11.   If you are using the MS Access version, the table you just created will open. Otherwise, enter **ADBUSER** (or the appropriate password) and click **OK**.

12.   The table you just created will open. Select one of the cells with *Fish and Aquatic Life* under the *USE_DESC* field. Right click on the cell and choose *Filter*. Only records with the *Fish and Aquatic Life* use should now be visible in the table.

13.   Right-click on the same cell and choose *Export Data*. Choose the *Export as Filtered* option.

14.   Save the file in the "ADB_Sampledata" folder as **Iron.txt.** Click *Save*. In the "Text File Export Wizard" window, click *Finish* to create the text file.

The text file you created above can be used to limit which AUs can be accessed in the main **Assessment Units** screen.

15.   Close the Connections Module and return to the main **Assessment Units** screen in the ADBv2. (If the database is not already open, you can access it through the *Start* menu).

16.   In the "Select an Assessment Unit" section of the screen, choose *Limit by Text File* from the **Limit List By:** drop-down list.

17.   In the "Limit List by" dialog box, click the *Choose New File* button. Navigate to the *Iron.txt* file in your "ADB_Sampledata" folder and click *Open*.

18.   Pick *ID305B* from the **Choose field to limit by** drop-down list. This will relate the field that contains the ID in the *Iron.txt* table to the AU ID in the ADBv2. Click *Finish*.

*Note: The **Limit by List** function will only work with lists that have 1,000 IDs or less.*

W15 – Limit by Text File

Limit by List

Current file: C:\iron.csv

| Choose New File |

| Finish |

Choose field to limit by (note: the
ADB limits by Assessment Unit ID)

[ID305B ▼]

| Open File | | Clear All |

| Close |

---
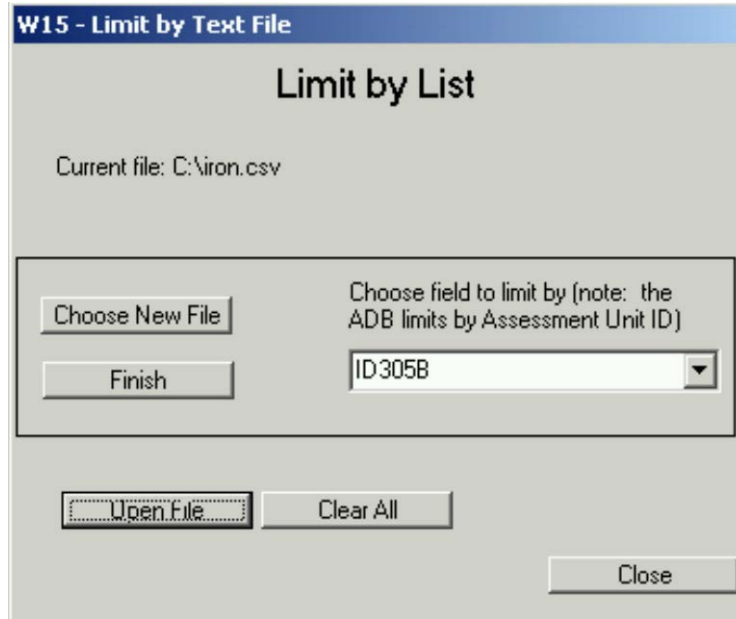
19.   Under the "Select by Assessment Unit" dialog box, Click on the **By ID:** drop-down list.

W1-ASSESSMENT UNITS

ASSESSMENT UNITS

Uses

Assessment

Causes Observed
Effects

Sources

Delist

Determine
Category

CLOSE

Select an Assessment Unit

By ID: [| ▼]
         TN05130107023_2000
         TN05130108036_0100

or by Name: [▼] [GO]

Limit list by: [Limit by Text File ▼] [CHANGE LIST]

Assessment Unit Functions

| Create New Assessment Unit |

| Update Current Assessment Unit |

| Delete Current Assessment Unit |

| Split Current Assessment Unit |

Information

Assessment Unit ID

Assessment Unit Name

WATER TYPE   **SIZE**   **UNIT**

| Add Type | Delete Type |

Trophic Status: [▼]

User Defined Category: [▼] [See Definition]   **Trend:** [▼]

Other Information

Cycle Last Assessed: [ ]

| Add Comment |
| Add File |
| Monitoring Information |
| Previous Cycle Info. |
| Other Location Info. |
| Category Reporting |

You can see that of the records that were in the table, only two are present in this list. These are the two records associated with the 1999 cycle.

20.	Close the **Assessment Units** screen.

Summary

In this exercise, you learned how to connect to an outside database and bring a table from that database into the ADBv2 and how to sort records in that table. You also learned how to perform a custom query within the connections module to answer a specific question. Finally, you learned how to export a newly created table from a query into a text file and, using the file, limit the records in the **Assessment Units** screen.
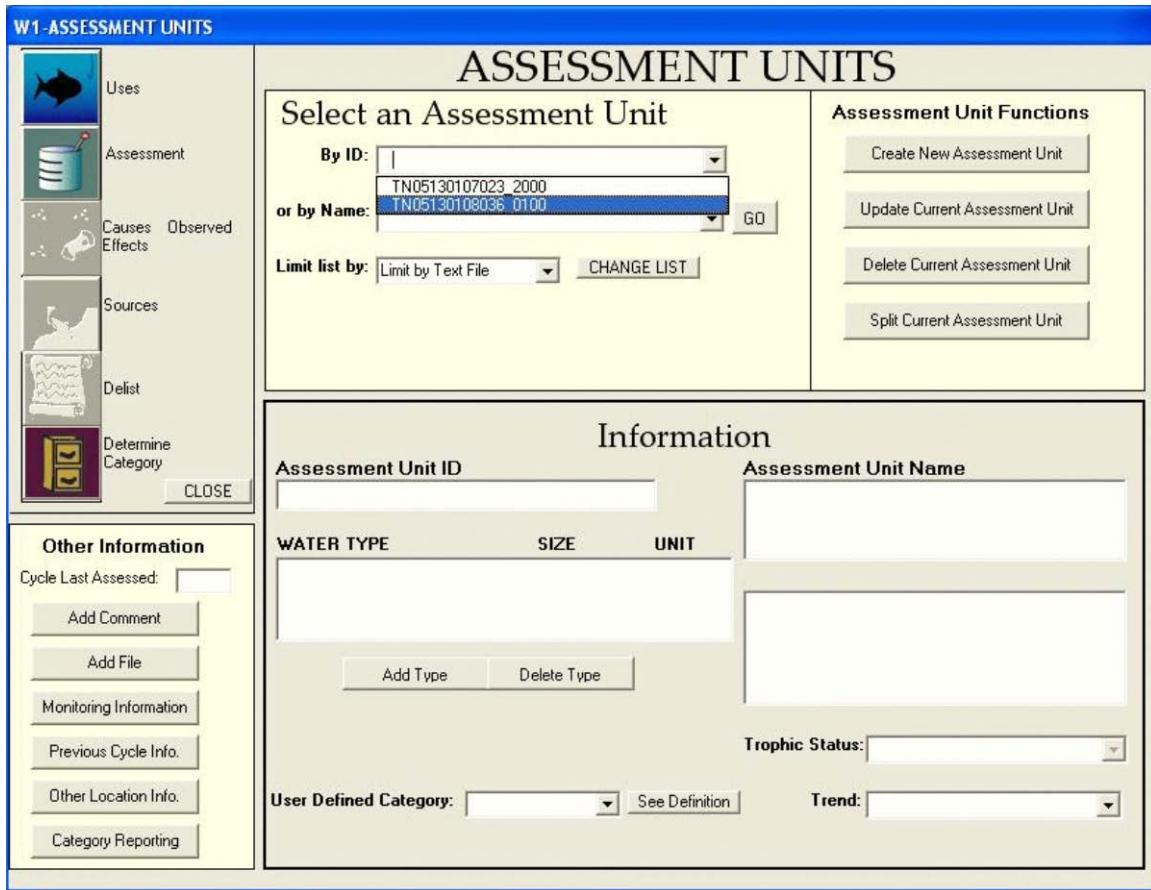
## Exercise 6. Running the Data Validation Module

In this exercise, you will learn about the features of the Data Validation Module and how to use it to check the data you have entered in the database for completeness.

Overview

The Data Validation Module serves two purposes:

1.   To ensure that all dates were entered properly

2.   To run any final validation checks on the data to ensure that all of the required data elements have been entered.

---

1.   Click on the *Data Validation Module* button at the top of the screen (below the menu toolbar):
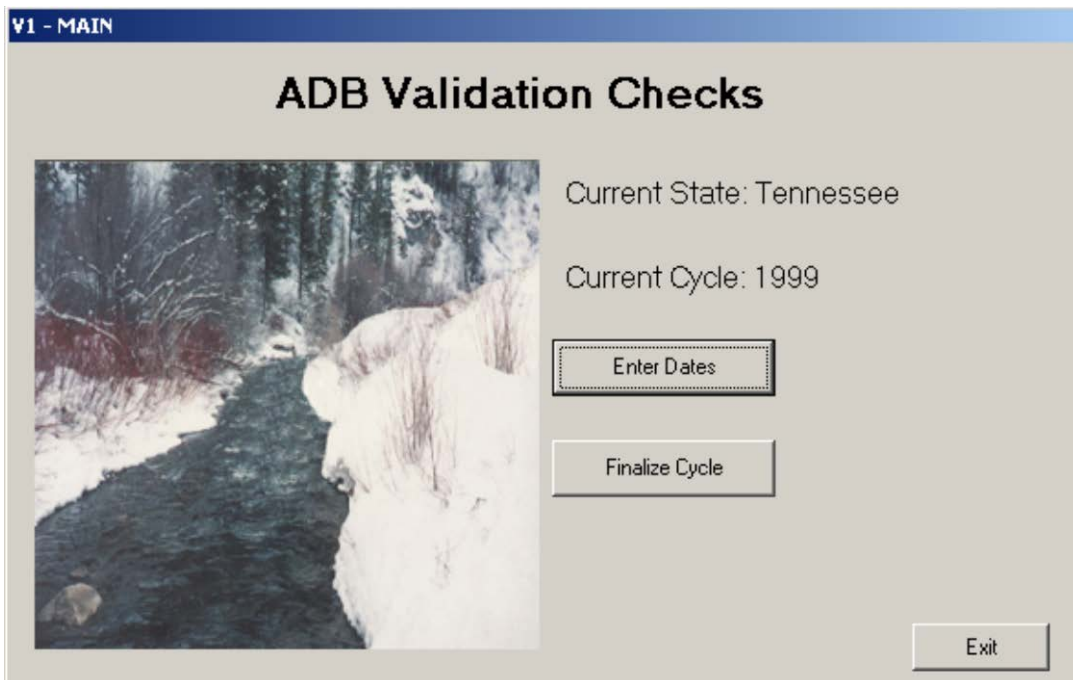
Finalize Cycle

When you finish a reporting cycle, the *Finalize Cycle* feature can help you make sure that your data has all of the necessary components. This feature creates log files of all the errors found during a data review check. The log files will be saved in .csv text file format, which can be opened with a number of different software programs, including MS Excel. These log files can be viewed by opening them in the "Finalize Cycle" dialog box. The log files will give you a listing of all of the AUs that may have problems that need to be fixed.

1.	In the main **ADB Validation Checks** screen, click the *Finalize Cycle* button.

2.	You are going to perform all of the validations, so select all of the boxes.

All of the validation checks can be run individually or in combination with other validations.

3.	Click on the *Begin Validation Checks* button.

4.	You will be prompted to pick a place to store the log file that the Data Validation Module will create. Click *OK*, then navigate to your *ADB_sampledata* directory and click *Save*.

The Data Validation Module will start working. There is a status bar at the top of the screen that will indicate the progress of the check. Also, the text beside the check boxes will change as it completes these checks, indicating whether or not errors have been found. All of the validations indicate the checks are OK except for the *TMDL Dates*.

5.	Click on the *Open Log* button beside **TMDL Dates found errors**. The information that appears in the **Potential Errors** text box indicates that Lower Rocky River, Clifty Creek, and Oostanaula Creek are missing information.

6.	Highlight an AU ID in the **Potential Errors** box to get an error description.
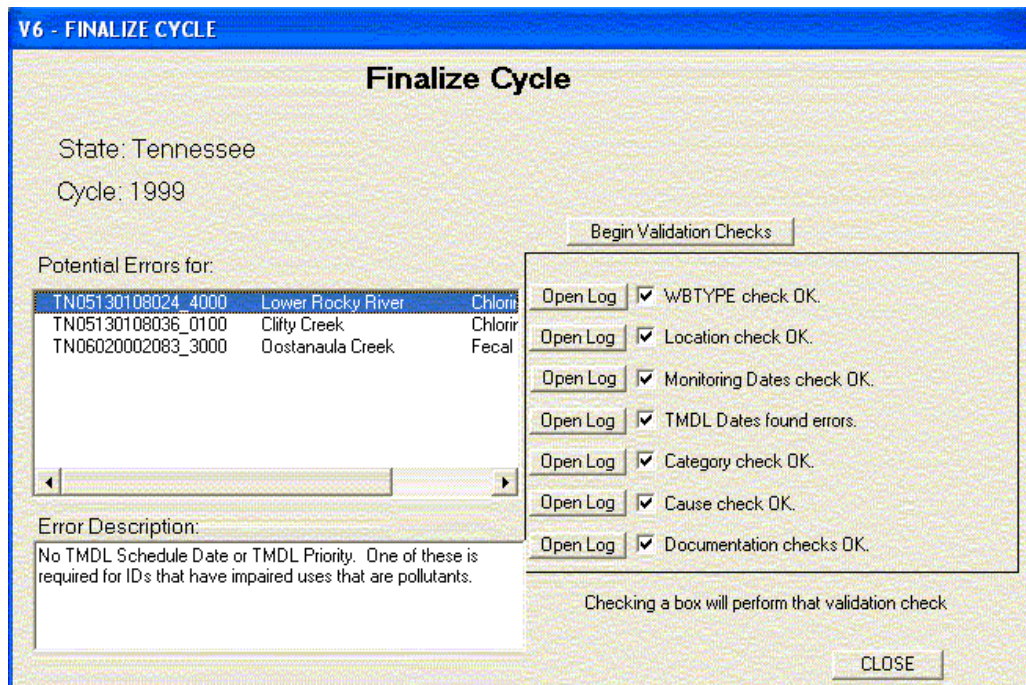
According to the error, TMDL dates or priorities need to be added for both the chlorine and fecal coliform causes because they are pollutants that are impairing a designated use. You can add these dates and/or priorities with the Data Validation Module▲s *Check Dates* feature.

7.	Click **CLOSE** on the lower right corner of the dialog box. This will return you to the main "ADB Validation Checks" dialog box.

Entering Dates with the Data Validation Module

The *Check Dates* feature is provided to ensure that all dates associated with each assessment unit have been entered properly into the ADB. Both optional and required date entries may be checked in this module. Any missing dates may be entered through this screen, by an import/export of the list of dates, or by returning to the main ADB and individually entering the dates.

1.	Click on the *Check Dates* button in the main "ADB Validation Checks" dialog box.

2.	Under the "Select Which Dates to Work With" section, click the button for *Scheduling of TMDL Dates/TMDL Priority***.**

3.	Under the "View Options" section, click on the *Show Only IDs that require a date* button.

---

4.   Select the first record in the table. Under *Assigned Date*, type "2002" and click the
        Update button.

Notice that when you update a record, the record disappears from the table.

Note: Adding a TMDL schedule date does not change the category.

---

5.   Repeat the step for the next two records.

        It is understood that the person entering the assessment date in the ADB may not be the
same person who determines the crucial dates (i.e., date scheduled to receive a TMDL) for the
AUs. The *Enter Dates* feature in the Data Validation Module also allows you to export a list of
all of the items requiring a date to a .csv file that can be opened using MS Excel. This file can be
sent to the person responsible for these crucial dates, who can then fill in the dates and return the
file to the person responsible for the ADB. You can then import this file to the Data Validation
Module and all of the crucial dates will be updated according to the dates entered in the .csv file.

---

6.   Click **CLOSE**. This will return you to the main **ADB Validation Checks** screen.

        After you have resolved any issues discovered in the initial round of validation checks
return to the **Finalize Cycle** screen to ensure that all the necessary components are now located
in the database.

---

7.   Click the *Finalize Cycle* button.

---

8. Check only the box for **Check TMDL Schedule Dates** and click the ***Begin Validation Checks*** button. Save the log file in your "ADB_Sampledata" folder.

The Data Validation Module indicates the TMDL dates are OK.

9. Close the "Finalize Cycle" dialog box and exit the **ADB Validation Checks** screen.

Summary

In this exercise, you learned about the functionality of the Data Validation Module. You learned how to use the *Finalize Cycle* feature of the Data Validation Module to check the entries in the database for the presence of required information and you learned how to enter a required date using the *Check Dates* feature.

Exercise 7. Reports Module

In this exercise, you will learn about the features of the Reports Module and how to use it to create and print out standardized reports.

Overview
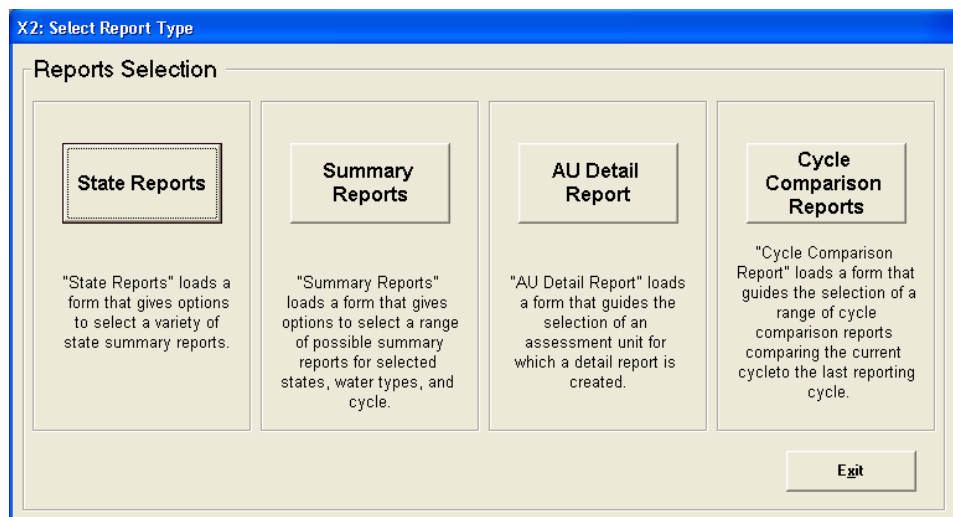
The Reports Module can create summary reports for a selected state, water type, and cycle. It can also generate comprehensive reports for selected AUs.

1.	Click on the ***Reports Module*** button at the top of the main ADB screen.

If you are not already logged in to the ADB, access the Reports Module by clicking on ***Start->Programs->ADBv2 for [version]->Reports.***

Creating State Reports

#State Reports were a new feature in the ADBv2.2. The following are the six reports that are available under this dialog:

- *Assessment Unit Summary List* – This report has general information associated with the assessment unit including, AU Name, Water Type, Water Size, Location Description, Use   and associated Attainments, Causes, Sources, and TMDL Status.

- *303(d) List Report* – This report shows all waters on the 303(d) list with their associated causes, TMDL status, uses, and sources.

- *303(d) Delisting Report* – Any delisting information entered into the ADB is available here. The 303(d) delisting report is a simple way to track the delisting status of all AUs in the database.

- *WQS Attainments Report* – This report contains information for waters that have been removed from the list due to WQS attainment reasons.

- *TMDL Status Report* – This report lists all of the AUs that require a TMDL and any information the user has entered regarding the progress towards submitting a TMDL. TMDL progress information can be entered through the **TMDL information** in the upper right corner of the **Causes** screen.

- *Atlas Report* – This report contains a summary of the waterbody information entered under **Atlas Information** and is independent of AU information in the database.

Feel free to open and explore the state reports. Reports will appear in a separate window. If you wish to save a report, go to *File -> Save As* in the toolbar of the report window and save the file as a text or .html where appropriate. When you are finished, close the report window and click *Cancel* on the ■State Reports• dialog box to return to the main **Report Selection** screen.

Creating Summary Reports

With the Reports Module, users can create use, cause, and source summaries for a selected state, cycle, and water type. Assessment data and 303(d) data dumps can also be performed through the *Summary Report* function.

| 1.	Click the *Summary Reports* button.

This screen allows you to specify the type of report you want to create. The *Current State and Current Cycle* represent the state and cycle selected in the ADB. You can change these at any time by clicking on the *Data* menu. Summary Reports allow the user to:

- Generate reports by state-specific water type or general EPA water type
- Generate summaries based on uses, causes, or sources
- Create data dumps

- Produce trophic status reports on all lakes
- Produce summaries in waterbody quality trends.

2.   Click the button beside **EPA Water Type** and select **Stream/Creek/River**.

3.   Make sure the box for **Individual Use Support Summary** is checked and click the ***Create New Report*** button.
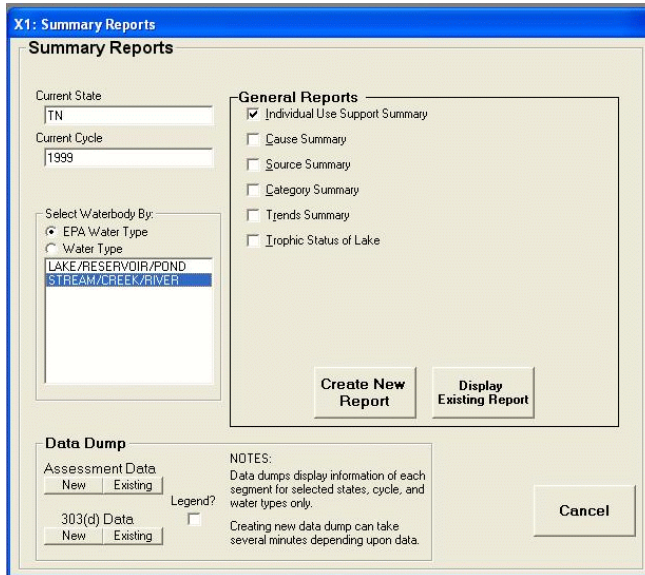
        The report you have just created will appear in a separate window. This file will be available under **Display Existing Report** or can be found under **C:*Program Files\\ADB v.2\\ Modules\\XML_Report\\report.html***, but this file will be overwritten whenever another report query is performed. If you wish to save the file permanently, go to ***File -> Save As*** in the toolbar of the report window and save the report as a text or .html file where appropriate.

Individual Use Support Summary for TN

Report for Water Type: STREAM/CREEK/RIVER; Units: MILES

USE	Total Size	Size Assessed	Size Fully Supporting	Size Fully Supporting and Threatened	Size Not Supporting	Size Not Assessed	Size with Insufficient Info
Domestic Water Supply	861.5	861.5	830.4	0	31.1	0	0
Fish and Aquatic Life	8,961.1	6,993	6,497.6	0	495.4	0	1,968.1
Industrial Water Supply	938	938	938	0	0	0	0
Irrigation	9,046	9,043	9,043	0	0	3	0
Livestock Watering and Wildlife	9,010.4	8,993	8,993	0	0	3	14.4
Recreation	3,293	2,405.9	1,987.2	0	418.7	0	887.1
Trout Stream	99.1	85.2	85.2	0	0	13.9	0

4.	Close the report window by clicking the **X** in the upper right corner.

5.	Uncheck the box beside **Individual Use Support** and click the check box beside *Cause Summary*. When the *Cause/Source Detail* check box appears, click the **Include Detail** check box to remove the check. Click *Create New Report*. This will list summaries of pollutant groups and summaries of their specific components.

6.	Close the report form by clicking on the **X** in the upper right corner after you have viewed the results.

Other report summaries can be created in the same way. Feel free to explore the types and variations of summary reports by varying details, water types, and report combinations.

Creating Data Dumps

Data dumps for assessment data and 303(d) can be created by clicking one of the buttons at the bottom of the form. Both reports provide the same type of information; however, the 303(d) data dump only lists AUs that are impaired.

1.	Under "Data Dump" section of the "Summary Report" dialog box, click the *New* button for "303(d) Data."

The .html report will open, and you can view assessment data. Notice that there are codes listed in the fields for designated use, causes, and sources. There is a legend feature in the data dump section that includes a look-up table for these codes.

2.	Close the table window and click the check box for *Legend* in the "Data Dump" section

of the "Summary Report" dialog box.

3.   Click the *New* button under "303(d) Data." A new report will be generated that lists the
        code for each field and their descriptions, as well as the 303(d) data that loaded initially.

4.   Close the report table form and click the *Cancel* button on the **Summary Reports** screen
        to return to the main reports dialog box.

Creating AU Detail Reports

        The AU reports allow you to choose specific AUs based on various criteria and create
custom reports on the selected AU(s). In this exercise, we will review the types of criteria
combinations a user can use to create unique reports.

1.   Click **AU Detail Reports** button.

        The **AU Detail Report** screen will appear. You will notice that the button next to "All
IDs" is the default selection option. Therefore, all AUs in the database appear in the list box in
the lower portion of the screen. You can limit the AUs by choosing any of the other button
selection options and entering additional filtering information as requested by the report module.
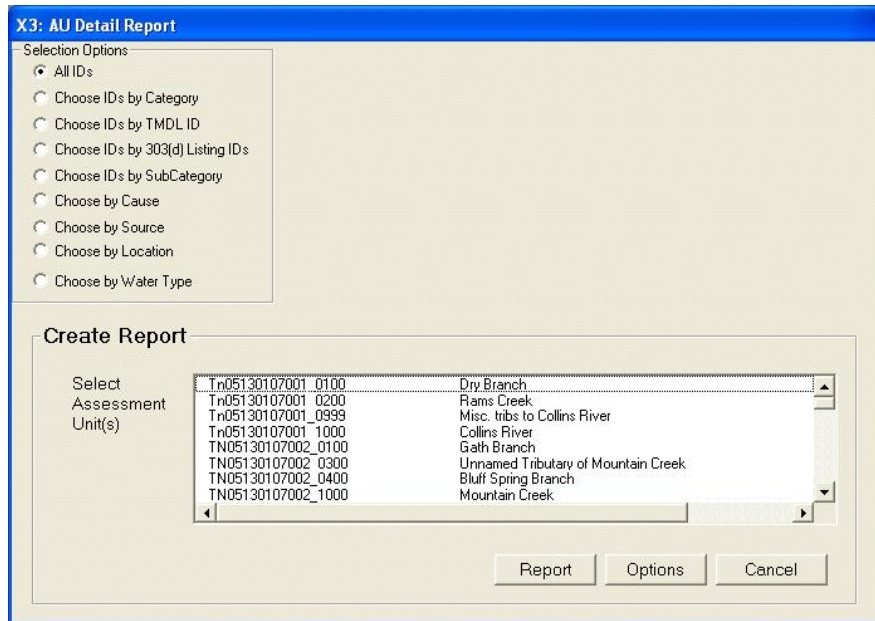
2.   Under the "Selection Options" section, select the *Choose by Cause* button.

3.   The *Choose IDs by Cause* box will appear to the right. Make sure that the *Specific Codes* button is selected and choose **Nitrogen, nitrite** from the drop-down list.
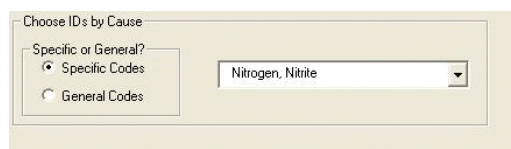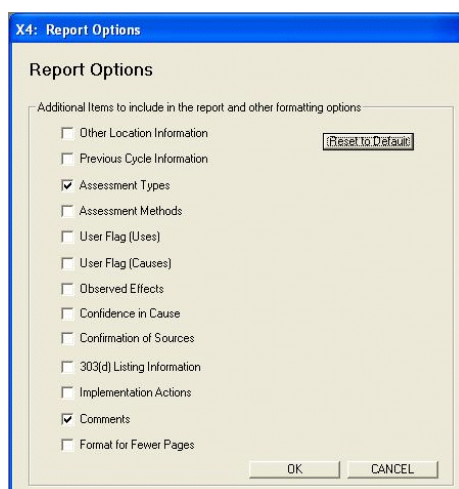

The AUs listed in the lower portion of the screen will be filtered to only include those AUs that have *Nitrogen, nitrite* as an associated cause.

4.   Choose **TN06010102042_1000, Beaver Creek** and **TN06010201067, Third Creek** from the list box by depressing the **Control** key while selecting the AUs.
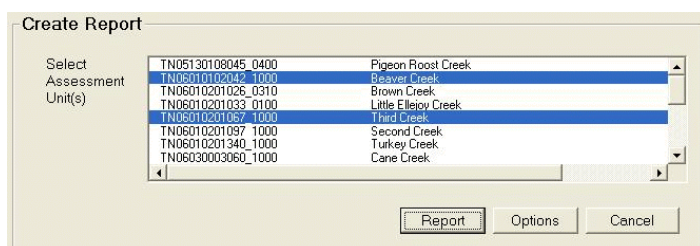
There are several ways to choose more than one AU. If you would like to select several consecutive AUs, you can press the **Shift** key while choosing the first and last AU you wish to include. To select all of the AUs, you can hold the **Control** key down and press **A**. You can also use the mouse to click and drag from the first AU you would like to select to the last consecutive AU you would like to select to highlight a list.

| 5. | To limit or add assessment information to be included in the report, click the *Options* button. The checked boxes default to *Assessment Type* and *Comments*. |

| 6. | Click the **OK** button to return to the **AU Detail Report** screen. |

| 7. | Click the **Report** button to generate the detailed report for these two AUs. |

| 8. | When you are finished viewing the report, close the report by clicking the **X** in the upper right corner and exit the reporting module. |

Creating Cycle Comparison Reports

Cycle Comparison Reports is a new feature in the ADBv2.3. This reporting feature allows you to select a range of information in which you can compare data from the current cycle to the previous cycle. There are 5 available reports to choose from:

- *Summary Statistics* **–** This report allows you to view the total number of assessment units in the current cycle compared to the previous cycle. You can also compare the current cycle Assessment Unit – Cause Combinations and compare Water Sizes by Category for both the current and previous cycle.

- *Assessment Unit – Cause Combinations Added to List* – This report contains any new assessment units and associated causes added to the 303(d) list for the current cycle.

- *Changed Use Attainments* – This report allows you to view current and previous assessment unit IDs, the associated uses and how the use attainments changed from the previous cycle to the current cycle.

- *Changed Category (Assessment Unit)* – This report displays overall category changes for an assessment unit. You can view the current assessment unit ID and overall category in comparison to the previous cycle assessment unit ID and overall category.

- *Waters Unaccounted For* – This report contains information for waters and their associated causes that have been unaccountable removed from the 303(d) list without a valid delisting reason.

Summary

In this exercise, you learned how to create summary reports and comprehensive reports for AUs. You also learned how to perform a data dump for assessment data.

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## Exercise 8. Exploring the Probability Survey Module

The Probability Survey Module is a new addition to the ADB and allows you to track probability-based survey information in the ADB database. This exercise will show you how to browse, add a new project, and create a project report in the Probability Survey Module.

|	
1.	Click the "Probability Survey Module" icon.
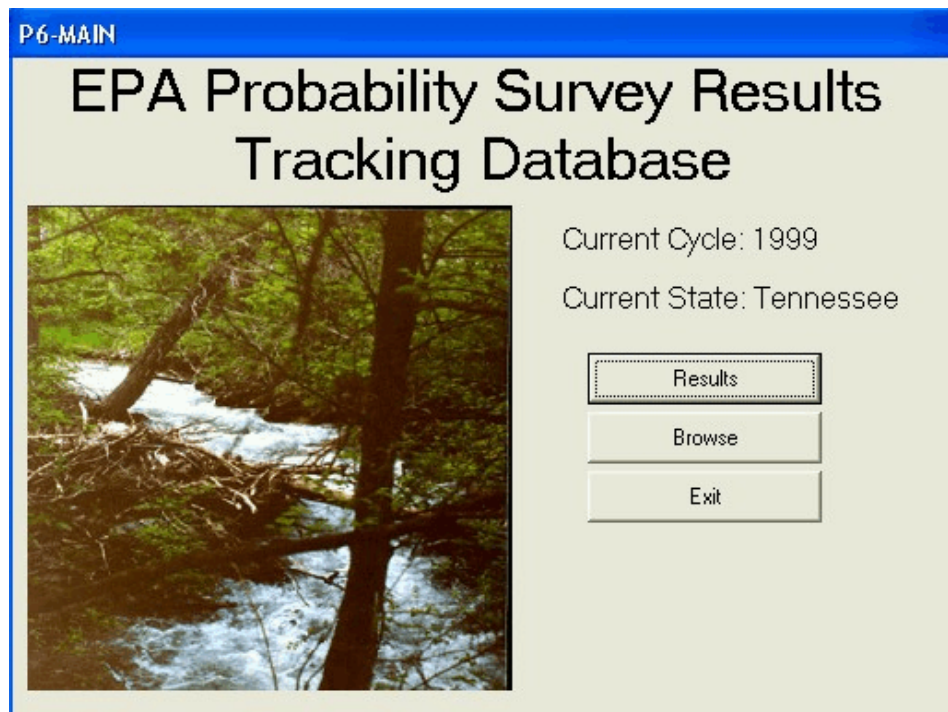
2.	Go to the *Data* drop-down menu and select *Change State*. Select **OR** in the Choose State drop-down menu and click **OK**. To change the Cycle, go to the *Data* drop-down menu and select *Change Cycle*. Select **2002** from the Choose Cycle Year drop-down menu and click **OK**.

3.	Click on the *Browse* button. The **Browse** screen in Probability Survey Module is similar to the main *Browse* feature.
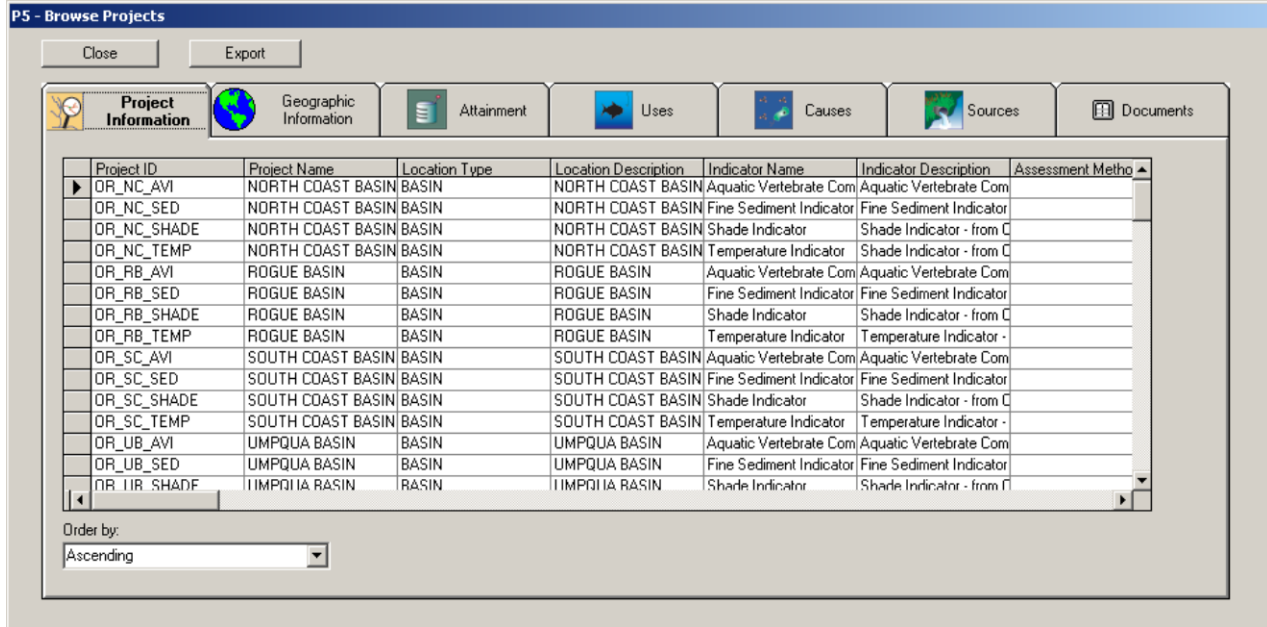
4.	Explore the different tabs on the **Browse** screen. When you are finished, click the **CLOSE** button.

5.	Click on the *Results* button. The **Probability Survey Projects** screen will open.
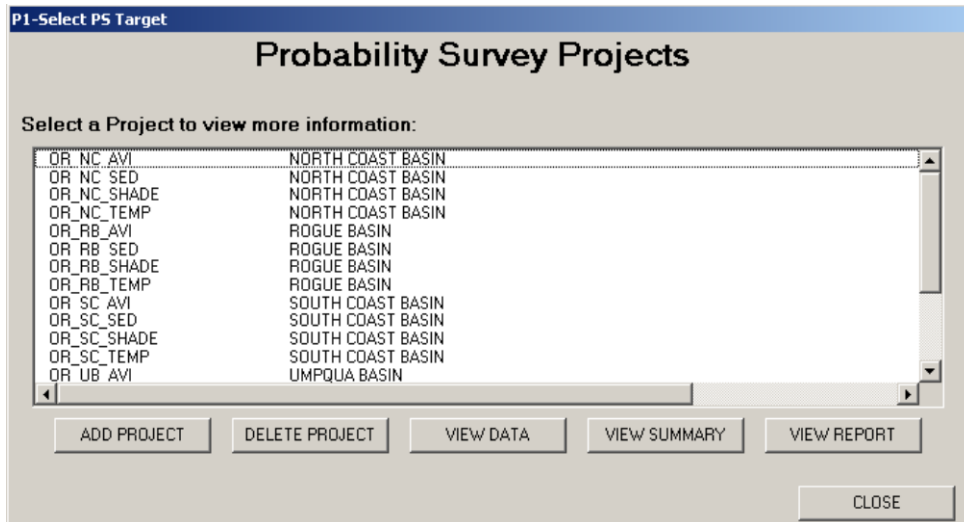
This is the principal location to add probability monitoring data, view or update existing data, and create probability survey project reports. In the probability survey, a project is the unique unit with which all probability data is associated.

6.   Click the ***ADD PROJECT*** button in the lower left side of the window.

7.   Enter the information as displayed below:

8.   Click the **ADD** button. The "Project Details" window will appear.

9.   Select the **Geographic Information** tab. In the "Assessed Water Size" dialog box, enter **10**.

10.	Click the **UPDATE** button in the lower right corner of the screen. Feel free to explore the other tabs to familiarize yourself with the data fields available.

Within the **Project Details** screen, geographic information system (GIS) coverages and documents may be added and geographic, statistical attainment, use, cause, and source information may be entered.

11.	When you are finished exploring the "Project Details" window, click the **CLOSE** button to return to the **Probability Survey Projects** screen.

You may view or update a project by highlighting the selected project and clicking the *View Data* button.

12.	Highlight the project we just added, **P-1x**, in the "Projects" dialog box.

13.	Click on the *View Summary* button to create a pie chart depicting the attainment percentages of P-1x.

14.   Click *CLOSE* to return to the "Probability Survey Projects" window.
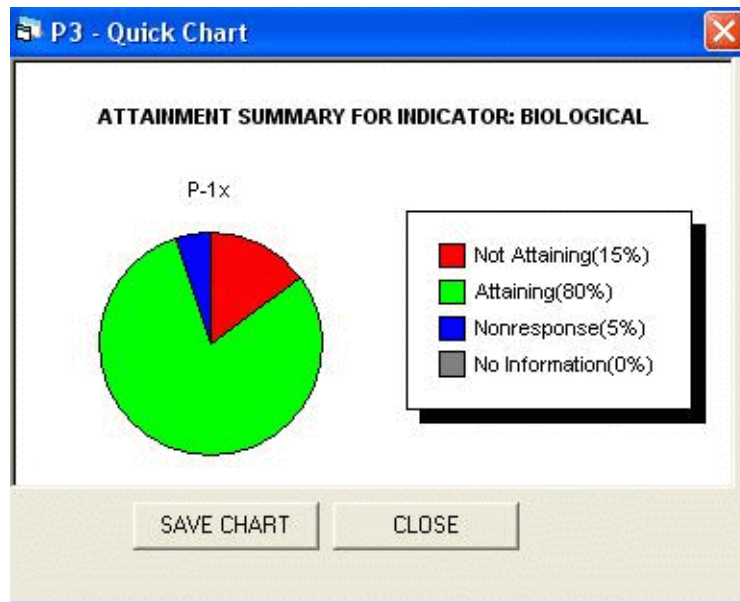
You can save this chart as a .jpg image by clicking **Save Chart**. Navigate to the location you wish to save the chart and click Save in the "Choose Location" window.

15.   Highlight **OR-NC_AVI** in the "Probability Survey Projects" dialog box.

16.   Click the **View Report** button to create a summary report. The report is created in a separate window, identical to the Reports Module.

17.   Browse the report, then close the window by clicking the **X** in upper right corner to return to the "Probability Survey Projects" window.

18.   Close the "Probability Survey Projects" window, then exit the Probability Survey Module.

Summary

In this exercise, you learned how to add a project to the Probability Survey Module, view probability-based assessment data, and create reports and charts for Probability Survey projects.

This concludes your tour of the ADBv2. For more information, visit the Internet at http://www.epa.gov/waters/adb. Support is also available by e-mailing attainshd-hq@epa.gov.