

CHAPTER 6

Customizing Plots

Plots are highly customizable and offer an array of information that will assist you with reviewing your data. A sample plot illustrating raw and revised data for stage and flow at a location called Beech Creek Station is shown in Figure 6.1.

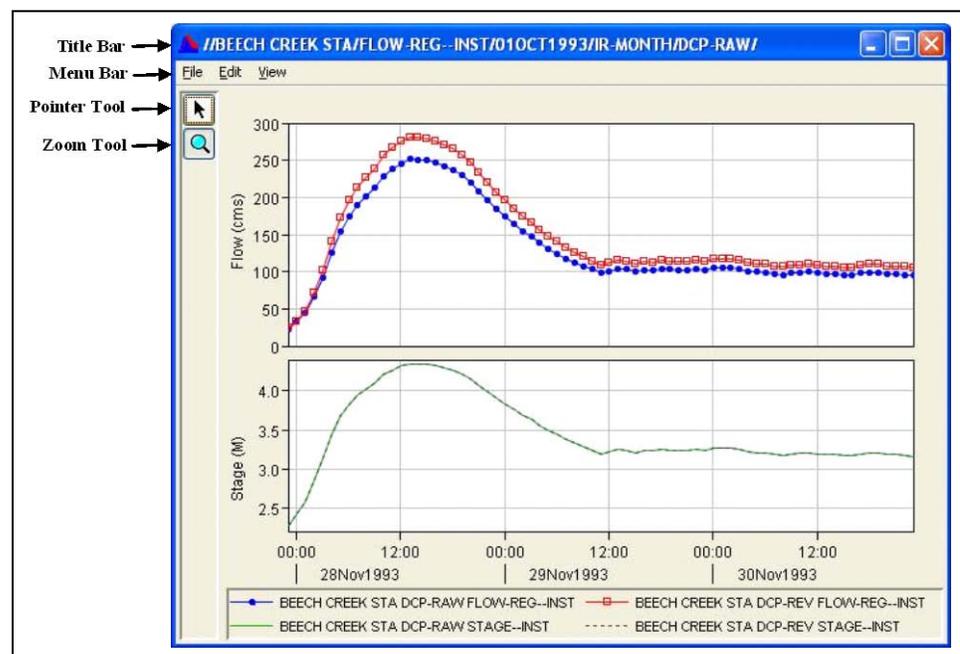


Figure 6.1 Plot Dialog Box

With the **Pointer Tool** , you can access shortcut menus that allow you to customize features of your plots using the plot window's editing tools. The following sections discuss these tools in detail.

The **Zoom Tool**  allows you to "zoom in" and view data more precisely at smaller time intervals. To zoom in, first select the **Zoom Tool**, then hold the left mouse button down and pull down to the right forming a square around the area you wish to zoom in to. The plot will redraw, magnifying the area in the square when the mouse key is released. Right-click to zoom out or from the **View** menu, click **Zoom to all**.

If you wish to keep the plot window on top of all open windows on your desktop, from the **View** menu, click **Always on Top**, a check mark indicates this option is active.

6.1 Customizing Plots: Overview

Plot properties editors allow you to configure default properties for plots as well as customize individual plots. The features of plots that you can configure are shown in Figure 6.2.

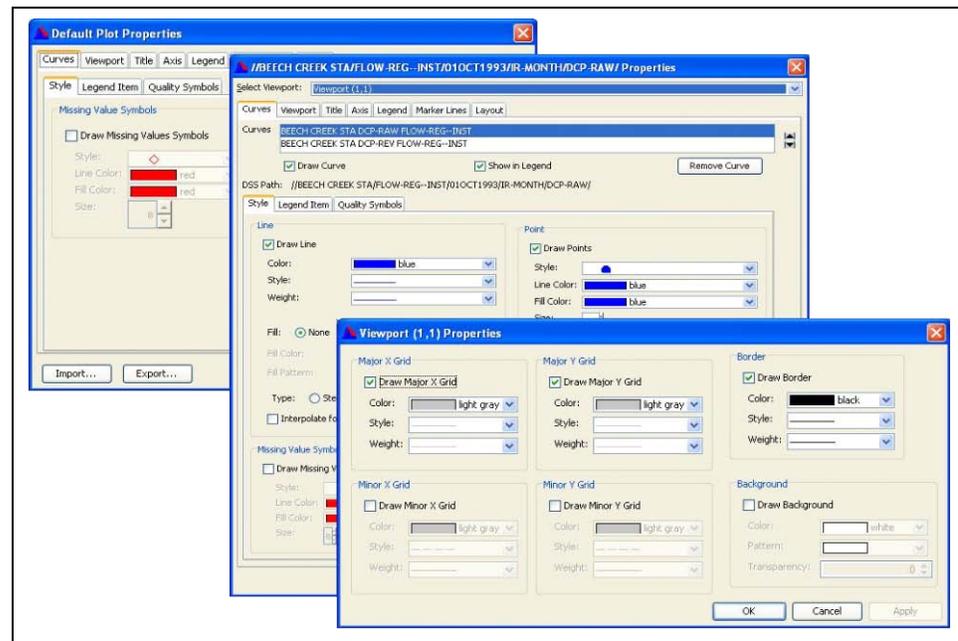


Figure 6.2 Configurable Features of Plots

- **Title:** Optionally, you can add a title to the plot display.
- **Panel Background Color:** You can specify the background color of the plot window. By default, the panel uses the same background color the HEC-DSSVue application uses.
- **Curve:** You can choose the line and point styles, add a label, and specify data quality symbols to curves.
- **Marker Line:** Marker lines can be added on the X and Y axis. You can customize their line styles and give them labels.
- **Viewport Spacer:** You can specify the distance between viewports.
- **Callout:** You can add descriptive callouts at specific points along a curve. Customize their fonts, borders, and backgrounds.
- **Viewport:** You can customize the borders around each viewport, their background color, pattern, and transparency, and the appearance of the gridlines.
- **Label:** Label fonts can be customized by color, style, and size. You can also give labels borders and background colors and patterns or choose to hide them.
- **Axis:** You can adjust the scale, set a minimum or maximum, major and minor tic intervals, reverse the axis, switch x and y, change label styles and text, and customize tic marks.

- Legend:** You can add titles to the plot legend, specify the legend's location in the plot window, add left and right blocks of text or graphics, change the background color, pattern, and transparency, or remove the legend from the plot window.

6.2 Using Plot Editors

Different plot editors allow you to set specific properties for individual plots or set default plot properties for all plots. Three examples of these editors: the **Default Plot Properties** editor, the **Plot Properties** editor, and the **Viewport Properties** editor are shown in Figure 6.3.

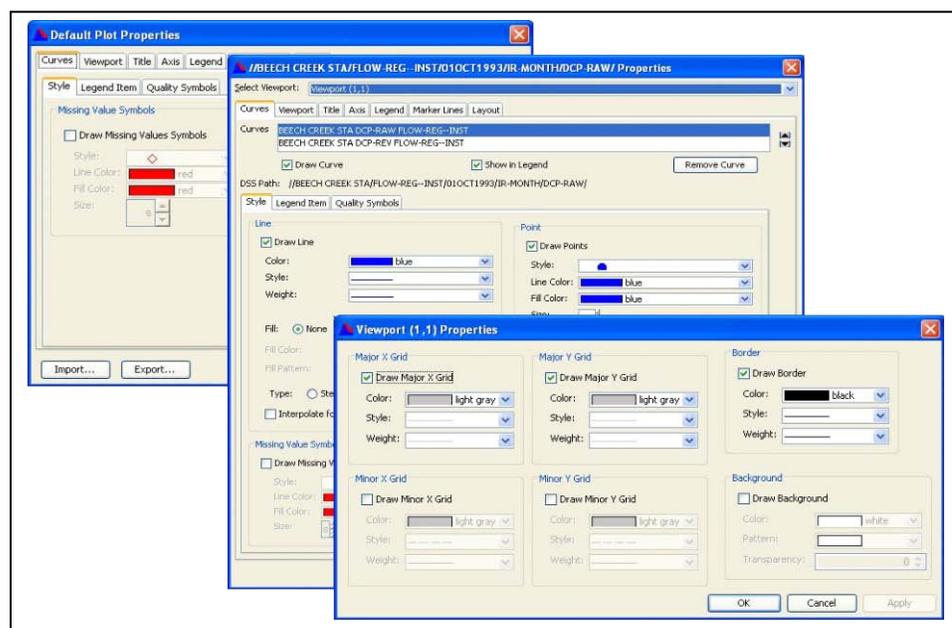


Figure 6.3 Examples of Plot Properties Editors

6.2.1 Setting Defaults vs. Customizing Individual Plots

Plot editors and tools fall into two categories in terms of function: either they allow you to specify *defaults* for *all* plots you create or they allow you to customize *individual* plots.

Across these two functional categories, the plot editors and tools allow you to edit a variety of plot properties, or they can be specialized editors that allow you to edit a single property.

To configure the *default* appearance of *all* plots, use the **Default Plot Properties** editor and **Default Line Styles** options editor. All settings you specify in these editors will apply to future plots you open. Default editors can only be accessed through the plot's **Edit** menu.

To customize *individual* plots, use the **Plot Properties** editor and the **Configure Plot** editor, accessed through plot windows using the **Edit** menu. You can display specific plot property editors by right-clicking on components displayed in the plot window.

Once you have customized an individual plot, you can export its settings as a **Template** that can be applied to other plots. See Section 6.12 for more detail on templates.

6.2.2 Accessing Editors

You can access plot property editors from shortcut menus and from the **Edit** menu of the **Plot** dialog box (Figure 6.4).

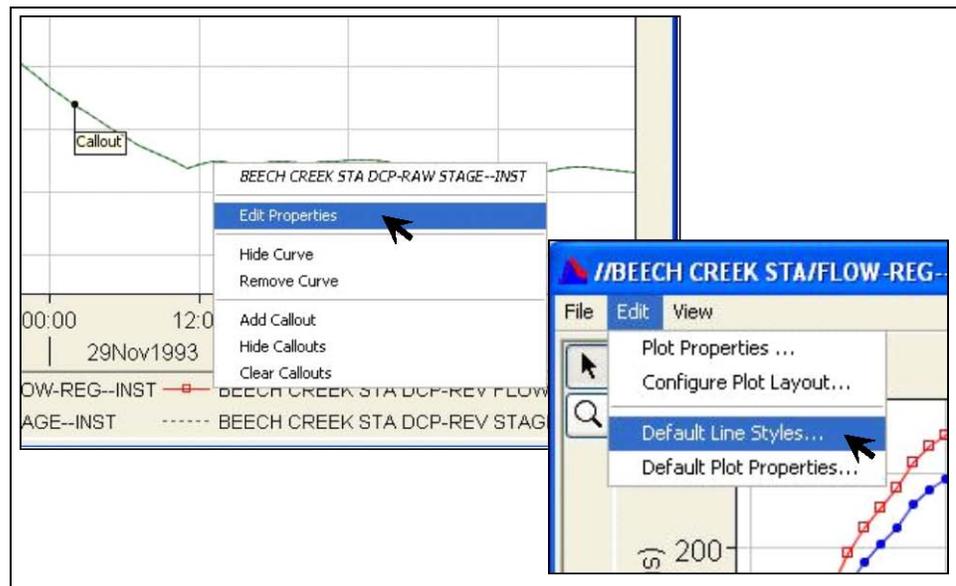


Figure 6.4 Accessing the Plot Property Editors

Use these menus according to whether you are defining properties for an individual plot or setting default properties for all plots you create. Use shortcut menus to edit specific components of an individual plot. For example, if you want to edit axis label properties on a plot, right-click on the axis label (see Figure 6.5, page 6-5), then select **Edit Properties** from the shortcut menu.

Use the **Edit** menu of a plot window to access the **Plot Properties** editor, **Default Line Styles** options editor, **Default Plot Properties** editor, and **Configure Plot** editor. These editors allow you to edit a variety of plot properties.

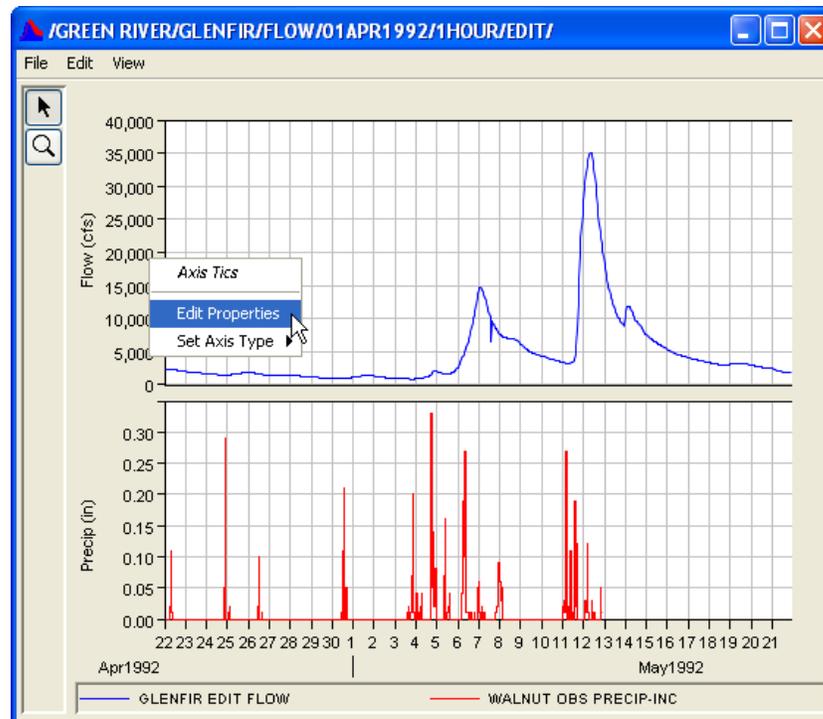


Figure 6.5 Edit Properties

6.3 Plot Editors and Tools

The following sections are an overview of the editing tools that allow you to customize plots. Later sections provide more detailed instructions on editing specific plot properties using these tools.

6.3.1 Plot Properties Editor

The **Plot Properties** editor (see Figure 6.6, page 6-6) is accessed from the **Edit** menu of a **Plot** dialog box by clicking **Plot Properties**. It allows you to configure multiple display properties for the individual plot, including the **Curves**, **Viewport**, **Title**, **Axis**, **Legend**, **Marker Lines**, and the **Layout** or properties of the plot window panel.

When you customize properties of a plot using the **Plot Properties** editor, your changes apply only to the individual plot displayed; unless you export the plot's properties in a template (see Section 6.12).

6.3.2 Individual Plot Property Editors

When you want to edit a specific property of a plot without launching the **Plot Properties** editor (discussed in Section 6.3.3), you can use individual

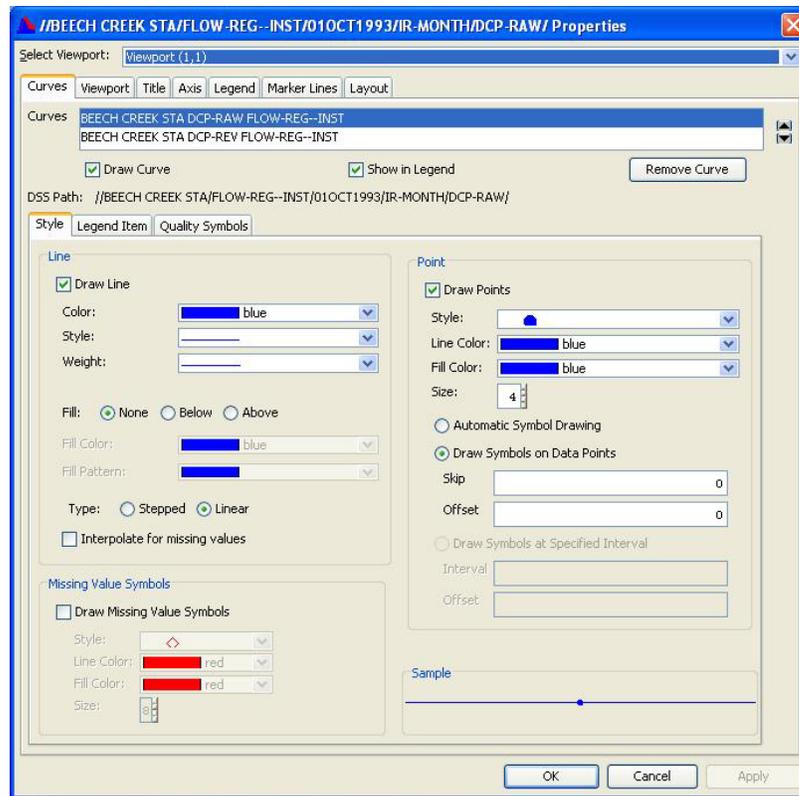


Figure 6.6 Plot Properties Editor

plot property editors instead. These individual plot property editors correspond to the tabs of the **Plot Properties** editor.

To access an individual plot property editor, right-click on the component you want to edit and then select **Edit Properties** from the shortcut menu. For example, if you right-click inside the gridded plot area, called the *viewport*, you will see the **Viewport** shortcut menu (Figure 6.7). When you choose **Edit Properties**, the **Viewport Properties** editor will open (Figure 6.8).



Figure 6.7 Viewport Shortcut Menu

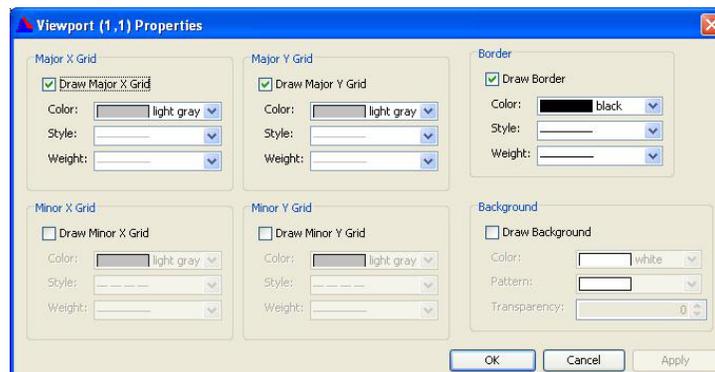


Figure 6.8 Viewport Properties Editor

The **Viewport Properties** editor lets you edit only properties associated with that particular viewport, using the same options that appear for viewports in the **Plot Properties** editor.

Other individual properties editors are the Edit Title Properties, Axis Properties, Curve Properties, Label Properties, Marker Properties, and Legend Properties.

The only plot property you cannot edit using an individual property editor is the **Layout**. (See Section **Error! Reference source not found.** for more information.)

6.3.3 Configure Plot Editor

The **Configure Plot** editor (Figure 6.9) is accessed from the **Edit** menu of a plot and allows you to customize the data configuration of an individual plot. You can add and remove axes and add, remove, arrange the order of, and set the weight of viewports in the plot window.

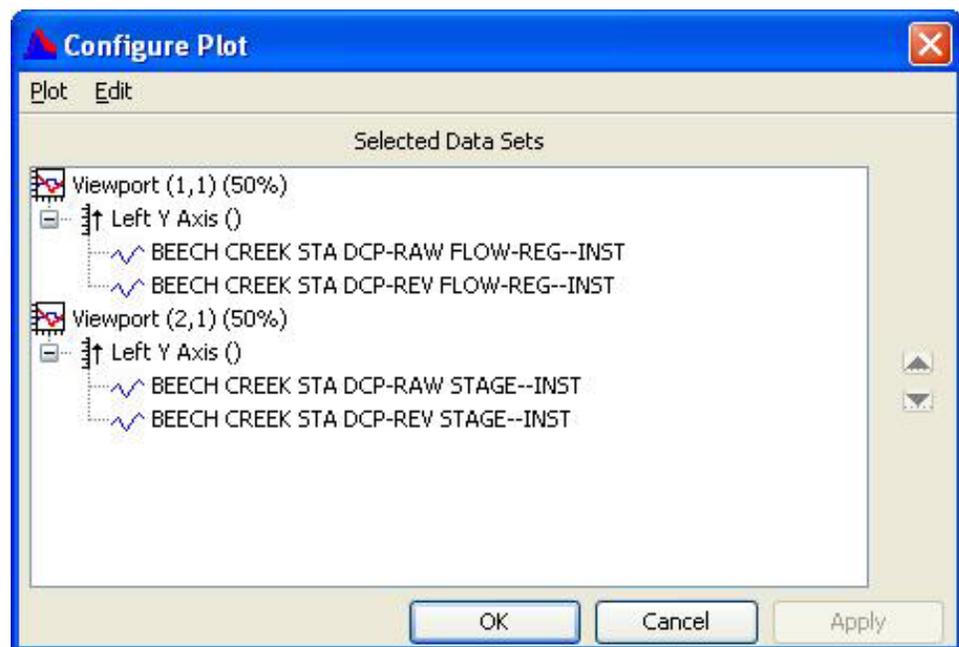


Figure 6.9 Configure Plot Editor

When you customize the layout of a plot using the **Configure Plot** editor, your changes apply only to that individual plot; unless you create a template from the plot's properties (see Section 6.12).

To access the Configure Plot editor, from the **Edit** menu, click **Configure Plot Layout**. See Section 6.11 for more information on this editor.

6.3.4 Default Line Styles Options Editor

With the **Default Line Styles** options editor (Figure 6.10), you can specify the default line and fill styles, as well as labels, used across all plots for specific parameters.

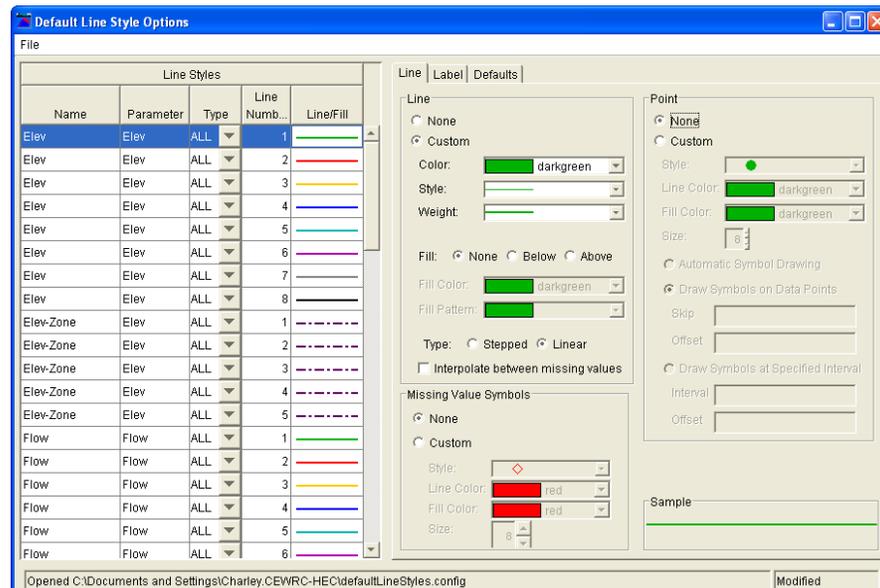


Figure 6.10 Default Line Styles Options Editor

To access the **Default Line Styles** options editor, from the **Edit** menu, choose **Default Line Styles**.

Refer to Section 6.5.2 for more information on the **Default Line Styles** options editor.

6.3.5 Default Plot Properties Editor

The **Default Plot Properties** editor (see Figure 6.11, page 6-9) allows you to configure the default display properties of all plots you create.

Properties you can configure include **Curves**, **Viewport**, **Title**, **Axis**, **Legend**, **Marker Lines**, and **Layout**, which include the miscellaneous properties of the plot window panel.

When you customize plot properties using the **Default Plot Properties** editor, your changes will apply to all future plots you create. If you would like to apply them to the plot you currently have open, you will need to close and then reopen it first.

To access the **Default Plot Properties** editor, from the **Edit** menu, click **Default Plot Properties**.

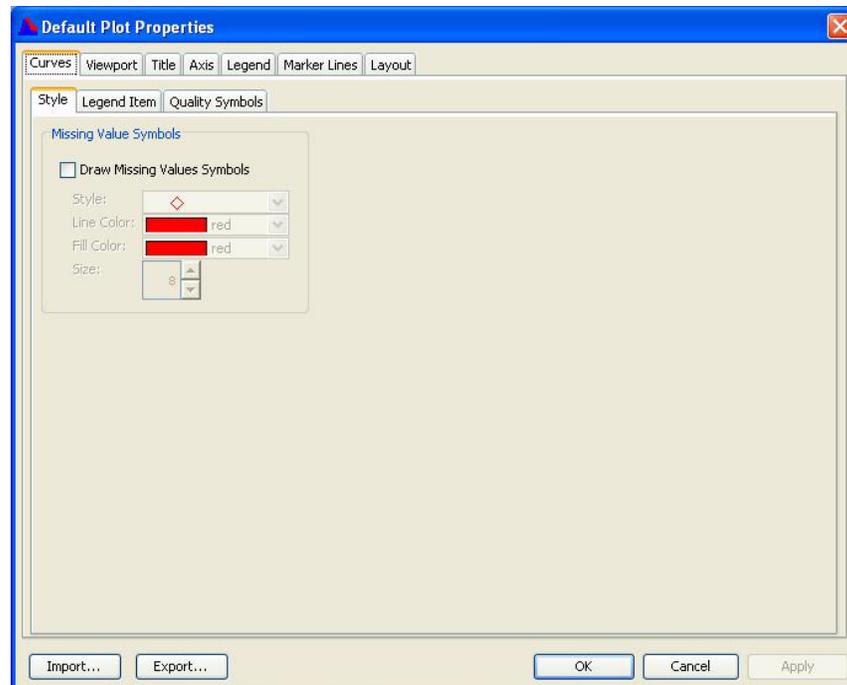


Figure 6.11 Default Plot Properties Editor

6.4 Customizing Plot Titles

You can add titles to individual plots and configure default properties for all plot titles.

To add or edit a title on an *individual* plot, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Title** tab.

-Or-

- Right-click in the blank area above the plot (below the menu bar) with the **Pointer Tool** , and then click **Edit Properties** from the shortcut menu (Figure 6.12). The **Edit Title Properties** editor will open.



Figure 6.12 Shortcut Menu - Title Properties

To specify the appearance of titles for *all* of your plots, from the **Edit** menu, click **Default Plot Properties**, then select the **Title** tab of the **Default Plot Properties** editor.

Whether you are using the **Plot Properties** editor, the specialized **Title Properties** editor, or the **Default Plot Properties** editor, the worksheet for editing plot title properties is the same.

The **Edit Title Properties** editor is shown in Figure 6.13. This editor contains the same fields as the **Title** tab of the **Plot Properties** editor and the **Default Plot Properties** editor.

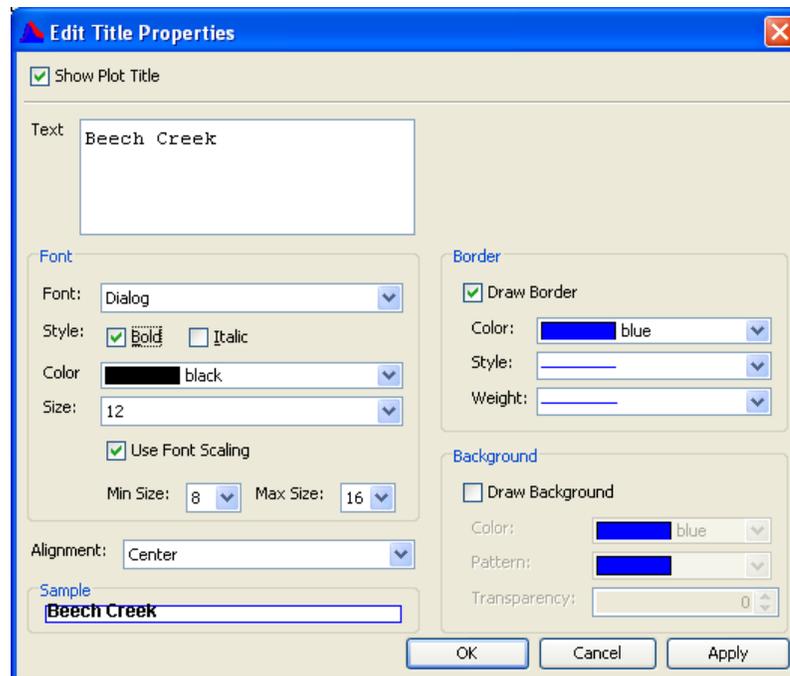


Figure 6.13 Edit Title Properties

1. To specify a title for the plot, check **Show Plot Title**.
2. In the **Text** field, type the title you want displayed in the plot window.
3. In the **Font** section of the editor, select the font type from the **Font** dropdown list. Choose the **Style**; **Bold** and/or **Italic**, **Color** of the font, and a **Size** of your text.
4. The **Font** section also includes the option to set **Use Font Scaling**. Checking this option and selecting a **Min Size** and **Max Size**, will set the minimum and maximum size your font can adjust to when resizing the plot window. If this option is not selected, the font size will remain constant regardless of the window's size.
5. Below the **Font** section on the editor is the **Alignment** setting of the title. Alignment can display the tile text **Center**, **Left**, or **Right**.
6. The **Border** section allows you to add a border around the title. You can specify the **Color**, line **Style** and **Weight**.
7. The **Background** section lets you add a background **Color** and/or **Pattern** behind your plot title. It also allows you to set the **Transparency** of the background.
8. The **Sample** box provides a preview of your plot title.

Click **Apply** to save your changes and continue adjusting the appearance of the title. Click **OK** to save your changes and close the editor.

6.5 Customizing Curves

You can customize line and point styles, add labels, and specify symbols to indicate data quality in your plots. Additionally, you can specify the parameter-based default curve styles used across all plots.

There are three different ways to edit plot curves, depending on whether you wish to customize one or more curves in an individual plot or specify defaults for all plots.

6.5.1 Customizing Curves in Individual Plots

To customize *all* curves in an *individual* plot, from the **Edit** menu, choose **Plot Properties**. Once the **Plot Properties** editor opens, select the **Curves** tab.

To customize a *specific* curve in an *individual* plot, right-click on the line or curve you wish to edit using the **Pointer Tool** , then select **Edit Properties** from the shortcut menu (Figure 6.14). The **Edit Curve Properties** editor will open.

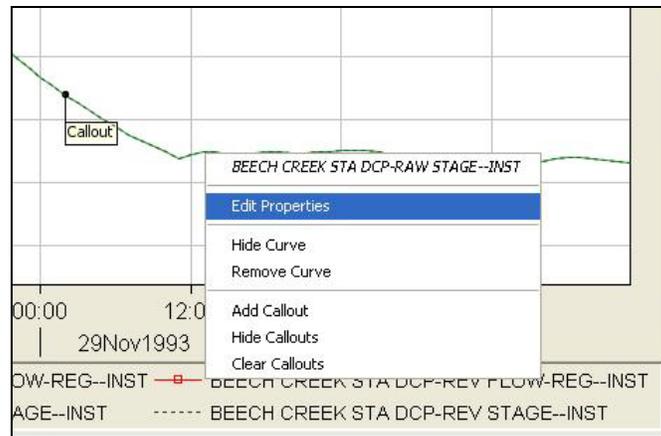


Figure 6.14 Shortcut Menu - Curve Properties

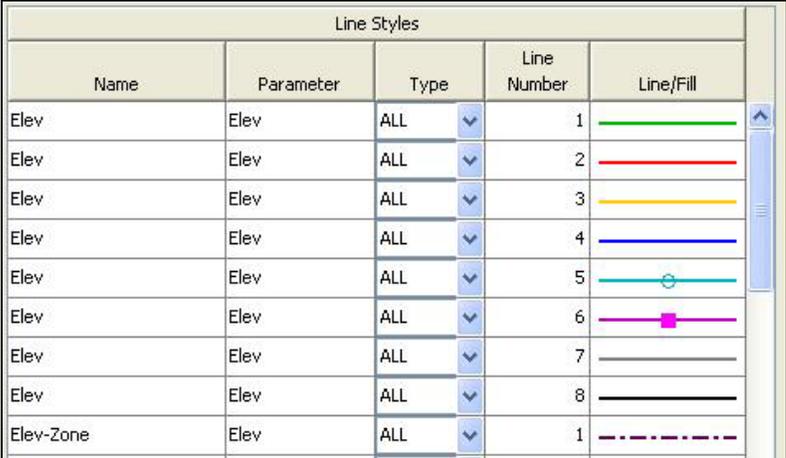
The **Curves** tab of the **Plot Properties** editor and the **Edit Curve Properties** editor are nearly identical with one exception. At the top of the **Curves** tab of the **Plot Properties** editor, there is a list of all curves contained in the plot. In contrast, when you open the **Edit Curve Properties** editor, only the selected curve's DSS Path is displayed.

Both the **Edit Curve Properties** editor and the **Curves** tab of the **Plot Properties** editor allow you to edit **Style**, **Label**, **Legend Item**, and **Quality Symbols** (you can edit Quality Symbols only if the plot has quality defined data).

6.5.2 Specifying Parameter-Based Default Curve Styles

To specify parameter-based default curve styles for *all* of your plots, from the **Edit** menu, click **Default Line Styles**. The **Default Line Styles** options editor will open (see Figure 6.10, page 6-8).

The **Default Line Styles** options editor gives you a way to edit line styles from the **Line Styles** box (Figure 6.15). You can specify the default, parameter-based curve styles used for all plots.



Line Styles				
Name	Parameter	Type	Line Number	Line/Fill
Elev	Elev	ALL	1	
Elev	Elev	ALL	2	
Elev	Elev	ALL	3	
Elev	Elev	ALL	4	
Elev	Elev	ALL	5	
Elev	Elev	ALL	6	
Elev	Elev	ALL	7	
Elev	Elev	ALL	8	
Elev-Zone	Elev	ALL	1	

Figure 6.15 Default Line Style Options Editor: Detail of Line Styles Box

The **Line Styles** table displays typical data types with default line and fill styles predefined.

You can edit all of these fields, change default line and fill styles for existing types, and add new data types to the list (currently, there is no delete option).

The **Line Styles** table columns are described below in detail:

- **Name** The **Name** corresponds to the "C" part of HEC-DSS pathnames. To edit an existing name, highlight it, and then type in the new **Name**.
- **Parameter** The **Parameter** is what distinguishes data sets and groups them together in the same viewport. For example, FLOW-IN and FLOW-OUT have different **Names** or "C" parts, but both are **Parameter** "FLOW" data sets, so they will be plotted in the same viewport.
- **Type** The **Type** describes the regular and irregular interval time series record data, either **INST-CUM** (instantaneous cumulative), **INST-VAL** (instantaneous value), **PER-AVER** (period average), **PER-CUM** (period cumulative), or **ALL**. To change the data **Type** associated with a

Name and **Parameter**, click the down-arrow and select from the preexisting list.

- **Line Number** The **Line Number** column indicates the number of lines/curves displayed in the viewport and what style will be associated with that data. For example, if you have three curves in a viewport each with the same Name, Parameter, and Type, the first line will be assigned the Line/Fill associated with Line Number 1; the second will use Line Number 2, the third Line Number 3, and so on. If there is only one line displayed in the viewport for that data set, it will use the Line Number 1 line style. See **Adding New Data Styles** below to add more Line Numbers to a particular data set.
- **Line/Fill** The **Line/Fill** property determines how curves associated with a particular **Name/Parameter/Type** combination will appear in all plots. To specify the **Line/Fill**, select the row, and then customize the **Line** and **Point** properties as discussed in Section 6.5.4.

6.5.3 Adding New Data Styles

To add a new data type (i.e. insert a row in the **Line Style** table):

1. From the **File** menu of the **Default Line Styles** options editor, choose **New Parameter**. The **New Data Type** dialog box will open (Figure 6.16).

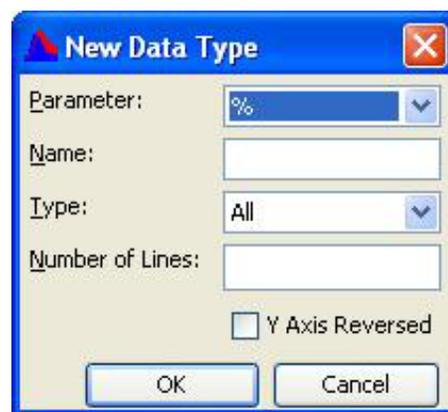


Figure 6.16 New Data Type Dialog Box

2. Select a parameter from the **Parameter** list.
3. Enter a name in the **Name** box.
4. From the **Type** list, select the data type.

5. In the **Number of Lines** box, enter the number of curves you want to add for this new data type.
6. If you want to reverse the Y-axis, select **Y Axis Reversed**.
7. Click **OK** to save and close the dialog box.

The **Line Styles** table will display the new data type you have added, repeated as many times as you specified in the **Number of Lines** box (reflected in the **Line Number** column). You can customize the new data types as described above.

To save your changes, from the **File** menu, click **Save**. To close the **Default Line Styles** options editor, from the **File** menu, click **Close**.

6.5.4 Specifying Line and Point Styles of Curves

The curve **Line** and **Point Style** worksheet is shown in Figure 6.17. This worksheet is available from the **Curves** tabs of the **Edit Curve Properties** editor, the **Plot Properties** editor, and the **Default Line Styles** options editor (Section 6.2).

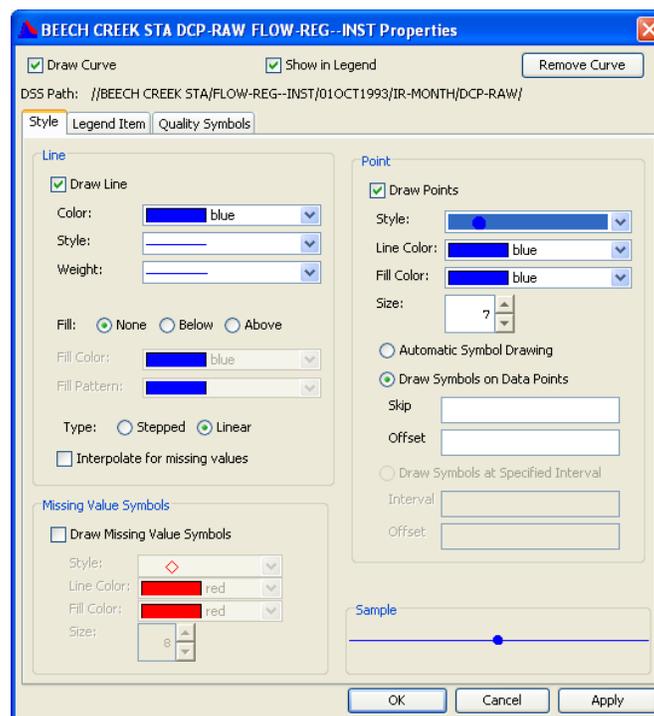


Figure 6.17 Curve Line and Point Style Editing Interface

The **Style** tab has three main groups, **Line**, **Point**, and **Missing Value Symbols** which allow you to customize line and point styles, and a separate symbol that can be shown for missing values. Beneath the **Point** group, the **Sample** box provides a preview of how your line and point choices will look.

To define line styles for curves:

1. In the **Line** group, click **Draw Line**.
2. Select a **Color, Style, and Weight** for the line.
3. You can display lines with fill above or below, or without fill. A plot with line fill below is shown in Figure 6.18, whereas the same plot without line fill is shown in Figure 6.19. To set this feature use the **Fill** selections; **None, Below, or Above**. Then choose the **Fill Color** and **Fill Pattern** for the fill using the color and pattern dropdown lists located below the **Fill** section.

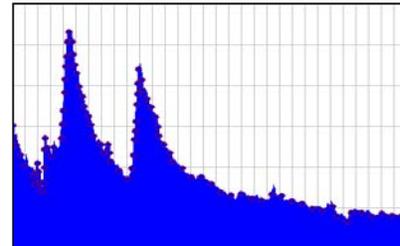


Figure 6.18 Plot with Line Fill

4. In the **Type** section, select if you want the curve drawn **Stepped**, in a stair-stepped style, or **Linear**, with a line drawn directly between each point.
5. If you would like to see missing values, check **Draw Missing Value Symbols** and select a **Style, Line Color, Fill Color, and Size** for the missing value points.

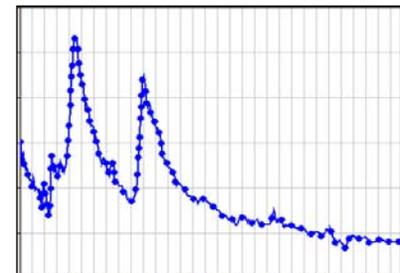


Figure 6.19 Plot without Line Fill

To define **Point** styles for curves:

1. In the **Point** group, click **Draw Points**.
2. Choose the **Style, Line Color, and Fill Color** you want. The **Line Color** is the “border” around the point symbol. The **Fill Color** is the color inside the point symbol. An example of a dark blue **Line Color** and a light blue **Fill Color** is illustrated in Figure 6.20.

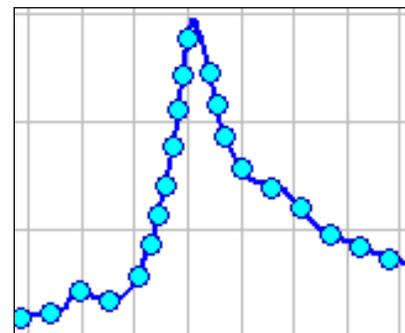


Figure 6.20 Example Line and Fill Colors

3. In the **Size** box, specify the size of the point (in pixels) either by selecting a size from the list or by typing in a number from 1- 45.
4. **Automatic Symbol Drawing** allows the program to determine the number of points to display on a curve. The program will automatically calculate how many data points can display on the curve before they start to overlap one another. Not all points will be displayed. If the points overlap at the zoom level you view the plot at, the program will determine how many points can display

separately on the curve and only display those points. As you zoom in, the plot will draw more and more points, as long as they do not touch.

5. **Draw Symbols on Data Points** allows you to specify how to draw the points so they don't overlap. If you set the **Skip** box to one (1), then it will draw one point, skip the next, then draw the third, etc. The **Offset** box allows you to say how many points on the curve to initially skip before drawing points.

To define missing value symbols for curves:

1. In the **Missing Value Symbols** group, click **Draw Missing Value Symbols**.
2. Choose the **Style**, **Line Color**, and **Fill Color** you want. The **Line Color** is the “border” around the point symbol, whereas the **Fill Color** is the color inside the point symbol. Figure 6.20 (page 6-15) shows an example of a dark blue **Line Color** and a light blue **Fill Color**.
3. In the **Size** box, specify the size of the point (in pixels) either by selecting a size from the list or by typing in a number from 1- 45.
4. This will place the selected symbol on each missing value.

6.5.5 Customizing Curve Labels

The curve **Label** worksheet, available from the **Curves** tabs of the **Edit Curve Properties** editor, the **Plot Properties** editor, and the **Default Line Styles** options editor (Section 6.2) are shown in Figure 6.21. This worksheet allows you to customize curve labels.

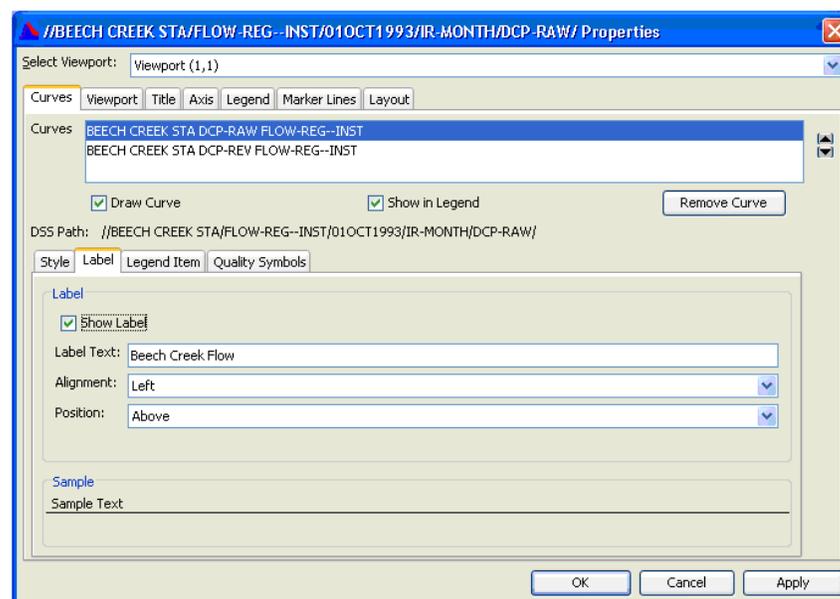


Figure 6.21 Curve Label Editing Tab

To customize curve labels:

1. Check the **Show Label** checkbox.
2. Enter the text you want to appear in the curve label in the **Label Text** box. You can also use text substitution for a curve label; see Section 6.16 for more information.
3. Using the **Alignment** list to select the horizontal position of the label on the curve; **Left**, **Center**, or **Right**.
4. To set the vertical position of the label on the curve, from the **Position** list, click **Above**, **Center**, or **Below**.

The **Sample** box at the bottom of the editor provides a preview of how your label will display.

6.5.6 Customizing Legend Items

See Section 6.9.3 for information on customizing legend items.

6.5.7 Customizing Curve Quality Symbols

The curve **Quality Symbols** worksheet, available from the **Curves** tabs of the **Edit Curve Properties** editor, the **Plot Properties** editor, and the **Default Line Styles** options editor (Section 6.2) are shown in Figure 6.22. This worksheet allows you to customize curves for plots that have quality set for their data.

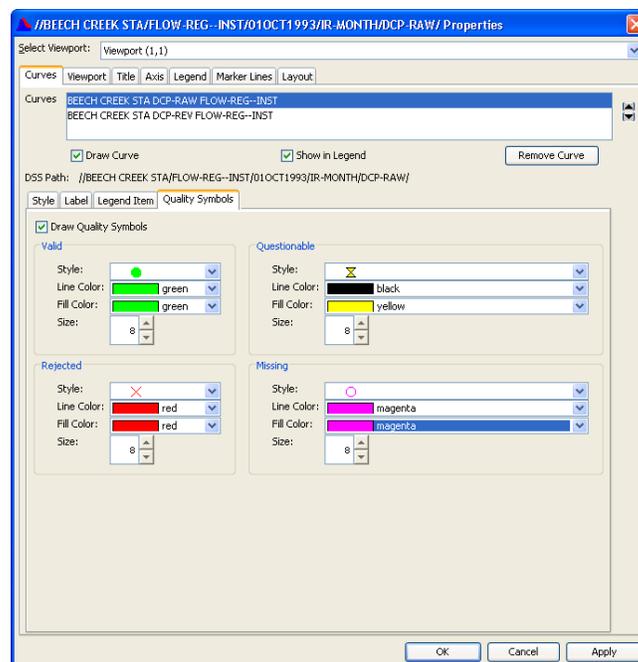


Figure 6.22 Curve Quality Symbols Editing Tab

To customize quality symbols:

1. Check the **Draw Quality Symbols** checkbox.
2. Select a symbol **Style**, **Line Color**, **Fill Color**, and **Size** for each quality of data; **Valid**, **Questionable**, **Rejected**, and **Missing**.

6.6 Customizing Viewport Properties

Viewports are the gridded areas in the plot window that contain plot curves. You can customize the border around the viewport, the background color and pattern, and the appearance of gridlines.

6.6.1 Customizing Viewport Borders and Background

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Viewport** tab.

-Or-

- Right-click in a blank area inside the viewport with the **Pointer Tool**  , and then click **Edit Properties** from the shortcut menu (Figure 6.23). The **Viewport Properties** editor will open.



Figure 6.23 Shortcut Menu - Viewport Properties

To specify the default border and background of viewports for *all* of your plots use the **Default Plot Properties** editor; from the **Edit** menu, click **Default Plot Properties**. Once the **Default Plot Properties** editor opens, select the **Viewport** tab. Changes made in the **Default Plot Properties** editor will apply to all viewports.

The **Viewport (#,#) Properties** editor, which displays the viewport number in the title bar is shown in Figure 6.24 (page 6-19). This number reflects the position of the viewport on the **Plot** dialog box. For example: if you had two viewports in you plot, the top viewport's number will display as (1,1). The bottom plot would display as (2,1). The worksheet, accessed from the shortcut menu, contains the same items as the **Viewport** tab of the **Plot Properties** editor and the **Viewport** tab of the **Default Plot Properties** editor. In the **Plot Properties** editor there is a **Select Viewport** list when multiple viewports are displayed in the plot. Select the viewport you would like to edit using this list.

The Viewport tab has six main groups: Major X Grid, Major Y Grid, Minor X Grid, Minor Y Grid, Border and Background.

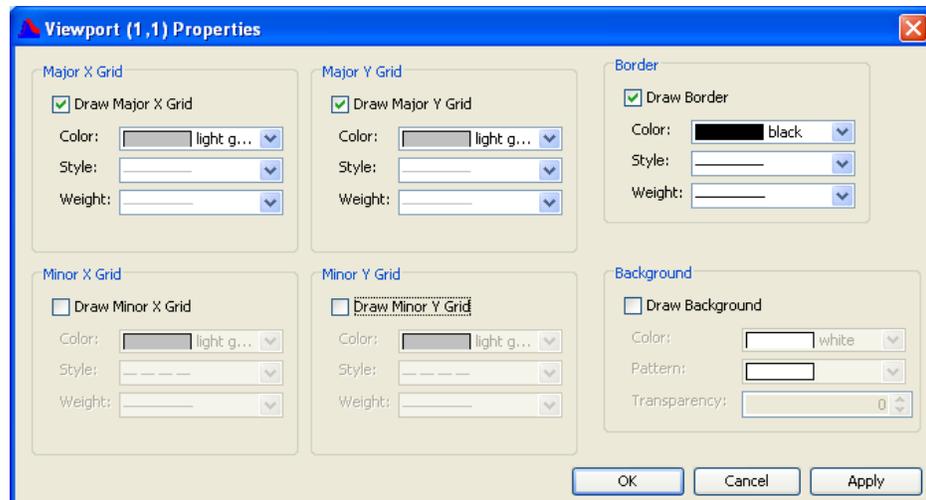


Figure 6.24 Viewport Properties Editor - Patterns Tab

To customize the Border and Background of a Viewport:

1. Check the **Draw Border** checkbox at the top of the **Border** group and choose the **Color**, **Style**, and **Weight** for the border line you want to appear around the selected viewport.
2. Select **Draw Background** in the **Background** group and choose the **Color**, **Pattern**, and **Transparency** you want for the background.

Click **Apply** to save your changes and continue adjusting the appearance of the border and background. Click **OK** when you are finished.

6.6.2 Customizing Viewport Gridlines

To customize gridlines of viewports in an *individual* plot, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Viewport** tab.
- Or-
- Right-click in a blank area inside the viewport with the **Pointer Tool** , and then click **Edit Properties** from the shortcut menu (see Figure 6.23, page 6-18).

To specify viewport gridlines for *all* of your plots, from the **Edit** menu, select **Default Plot Properties**. Once the **Default Plot Properties** editor opens, choose the **Viewport** tab.

By default, the plot viewport displays gridlines only for the **Major X Grid** and **Major Y Grid**. The default color is light gray. To change the appearance of Major X and Y gridlines, select the **Color**, **Style**, and **Weight** of the gridlines located under their respective groups.

By default, the **Minor X Grid** and **Minor Y Grid** are not selected to draw and do not display in the plot viewport. If you want to display gridlines for the **Minor X Grid** and **Minor Y Grid**, check the **Draw Minor X Grid** and **Draw Minor Y Grid** checkboxes and then make your selections for **Color**, **Style**, and **Weight** (Figure 6.25).



Figure 6.25 Viewport Properties Editor - Gridlines Tab

Click **Apply** to view your changes without closing the editor. Click **OK** when you are finished.

6.7 Adding and Customizing Marker Lines

You can add marker lines on your plot's X and Y axes and customize the appearance of these markers, as displayed in the top viewport in Figure 6.26.

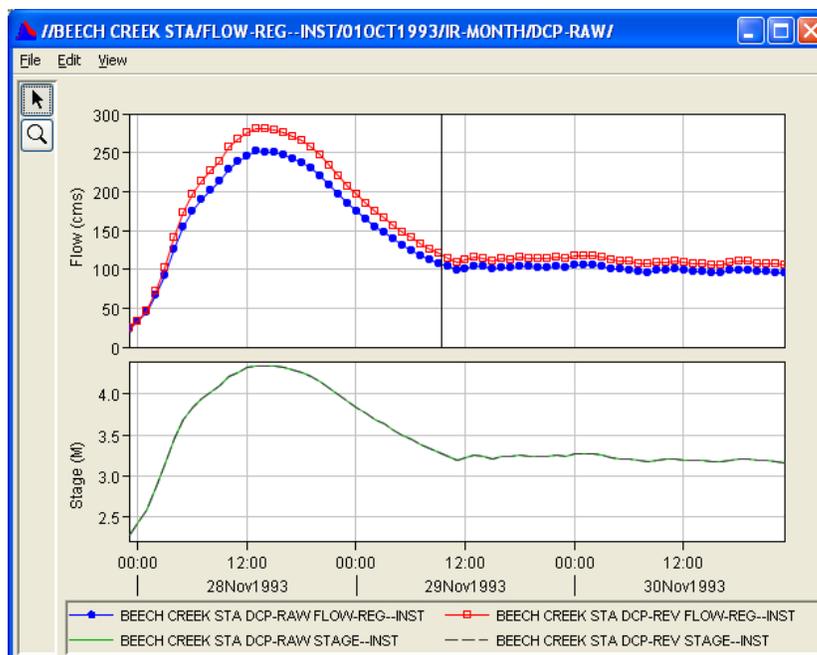


Figure 6.26 Adding Marker Lines to Plots

6.7.1 Adding Markers

To add a marker:

1. Right-click on the location in the plot where you want the marker to appear.
2. From the **Viewport** shortcut menu (Figure 6.27), point to **Add Marker**, and then click either **On X-Axis** or **On Y-Axis**.

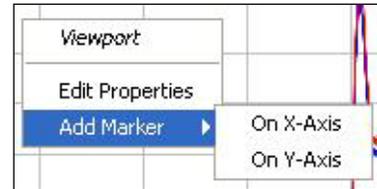


Figure 6.27 Shortcut Menu - Add Marker

The marker will now appear in the plot.

6.7.2 Deleting Markers

To delete a marker line in a plot, right click on the plot with the **Pointer Tool**,  from the shortcut menu, click **Delete** (Figure 6.28).



Figure 6.28 Shortcut Menu - Marker Line Properties

6.7.3 Customizing Markers

To edit the properties of a marker in an *individual* plot, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Marker Lines** tab. This worksheet is available only if a marker exists in the plot. Choose the marker you want to edit from the **Marker Lines** list.
- Or-
- With the **Pointer Tool** , right-click on the marker you want to edit. From the **Marker Line** shortcut menu, click **Edit Properties** (Figure 6.28). The **Edit Marker Line Properties** dialog box will open.

To specify the default appearance of markers for *all* of your plots, from the **Edit** menu, click **Default Plot Properties**. Once the **Default Plot Properties** editor opens, choose the **Marker Lines** tab.

The interfaces for the specialized **Edit Marker Line** editor and the **Default Plot Properties** editor are very similar. However, the **Plot Properties Editor** dialog box differs in two ways. First, the **Marker Lines** worksheet is available only if a marker exists in the current plot. Second, at the top of the editing panel there is a **Marker Lines** list containing all markers that exist in the current plot.

You can edit the line style and label of a marker through this worksheet. The **Edit Marker Line Properties** editor is shown in Figure 6.29. The **Marker Line** tabs in the **Plot Properties** editor and the **Default Plot Properties** editor use similar worksheets as well.

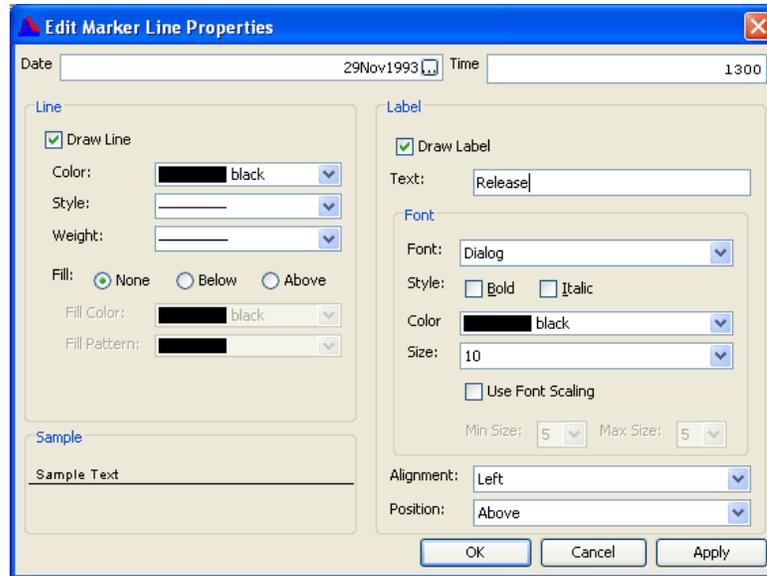


Figure 6.29 Marker Line Properties Editor - Style Tab

To edit the line style for markers:

1. Select the **Color**, **Style**, and **Weight** for the marker line.
2. You can display marker lines with a **Fill Above** or **Fill Below** the line. A plot with the **Fill Above** and a hatched **Fill Pattern** selected using a red **Fill Color** is shown in Figure 6.30.

The **Sample** box, located in the lower left-hand corner of the worksheet, provides a preview of the new marker line.

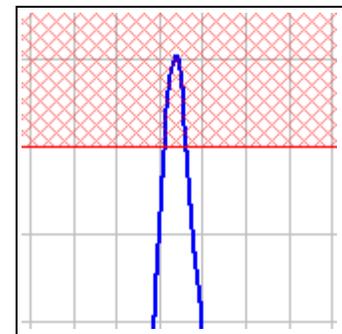


Figure 6.30 Marker Line with Fill Above

Click **Apply** to save your changes without closing the editor.

To add a label to a marker line:

1. In the **Label** group, check the **Draw Label** checkbox and type the label name into the **Text** field.
2. In the **Font** section, select the labels **Font**, **Style**, **Color**, and **Size**.
3. Check **Use Font Scaling** if you would like to limit the size of the font when zooming in and out of the plot. Set the **Min Size** and **Max Size** limits.

4. From the **Alignment** list, select the justification of the label; **Left**, **Center**, or **Right** of the marker line.
5. Set the position of the label from the **Position** list, either **Above**, **Center**, or **Below** the marker line.

Set the position of the label from the **Position** list, either **Above**, **Center**, or **Below** the marker line.

1. If the marker line is on a date, the **Date** field will be displayed on the top of the worksheet.
2. To change the date, either enter the date in the format DDMMYYYY (e.g., 21Dec1993) or click the ellipse button  to access the **Calendar Tool** (Figure 6.31).
3. For the **Time** value, enter the time in 24-hour military format (e.g., for 5:08 pm, enter "1708").
4. If the marker line appears on a specific value, the **Value** field will display at the top of the worksheet instead of the **Date** field. To change this value, simply enter a new value in the field.



Figure 6.31 Calendar Tool

6.7.4 Editing Callouts

You can add descriptive callouts at specific points along a curve (Figure 6.32). To add callouts:

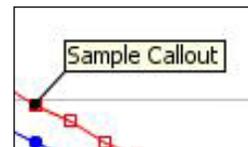


Figure 6.32 Callout

1. Right-click on the location on the curve where you want the callout to appear.
2. From the shortcut menu (Figure 6.33), select **Add Callout**.

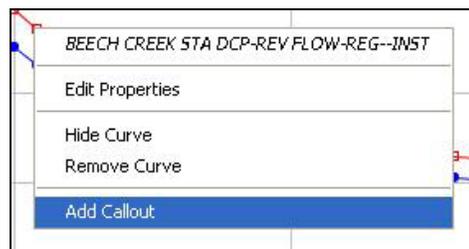


Figure 6.33 Shortcut Menu - Add Callout

3. In the **Add Callout** dialog box (see Figure 6.34, page 6-24), enter the text you want to appear in the callout, and then click **OK**.

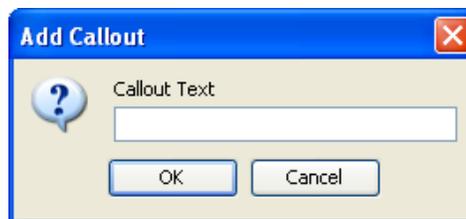


Figure 6.34 Add Callout Dialog Box

To hide all callouts on a curve, right-click on the curve in the plot, or in the legend, and select **Hide Callouts** from the shortcut menu.

Once you have hidden callouts, **Hide Callouts** in the shortcut menu changes to **Show Callouts**; allowing you to return callouts to the plot. To permanently remove all callouts from a curve, right-click on a curve in the plot, or in the legend, and click **Clear Callouts** from the shortcut menu.

6.8 Customizing Axes

You can choose either a linear or log axis type, specify the axis scale, modify tic marks, and customize axis labels. Probability plots are generated for paired data sets with a type of "PROB", and cannot be changed without changing the data type.

6.8.1 Changing Axis Type

By default, plots display using a linear scale (**Linear Axis**), in which the axis increases and decreases by x . You can also use the log scale, which allows you to view curves that grow exponentially in a near straight line, because the axis increases or decreases by the $\log(x)$. For example, you might wish to use the log scale when the axis has evenly-spaced major tics with values of 1,10,100,1000, and so on, such as in a performance history plot showing many years of data.

To change the axis type of an individual plot, right-click on an axis, then from the **Axis Tics** shortcut menu, point to **Set Axis Type**, click **Log Axis** or click **Linear Axis**; depending on which axis type is already in use. In Figure 6.35, the axis is using a **Linear Axis**, so the choice available is **Log Axis**.

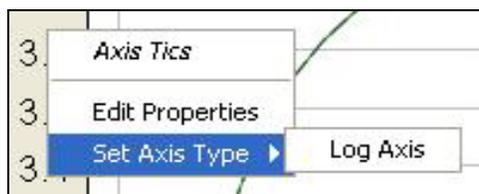


Figure 6.35 Shortcut Menu - Set Axis Type

6.8.2 Specifying Axis Scale

You can specify the axis scale and tic interval for individual plots. To do this, select the editor either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Axis** tab. From the **Axis** worksheet, select the axis you want to edit from the **Axis** list. Then select the **Scale** tab.

-Or-

- Right-click on the axis using the **Pointer Tool**  and from the **Axis Tics** shortcut menu (Figure 6.36), click **Edit Properties**. When the **Axis Properties** dialog box opens, click the **Scale** tab.

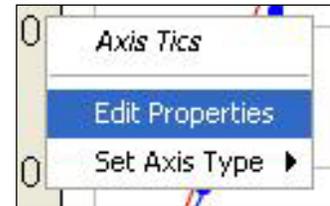


Figure 6.36 Shortcut Menu - Axis Tics

The **Plot Properties** editor with the **Axis** tab selected and the **Scale** worksheet open is shown in Figure 6.37. The **Axis** worksheets of the **Plot Properties** editor and the **Default Plot Properties** editor are nearly identical, except for the **Axis** list on the **Plot Properties** editor. The **Axis Label** and **Tics** sub-worksheets are available in all three editors.

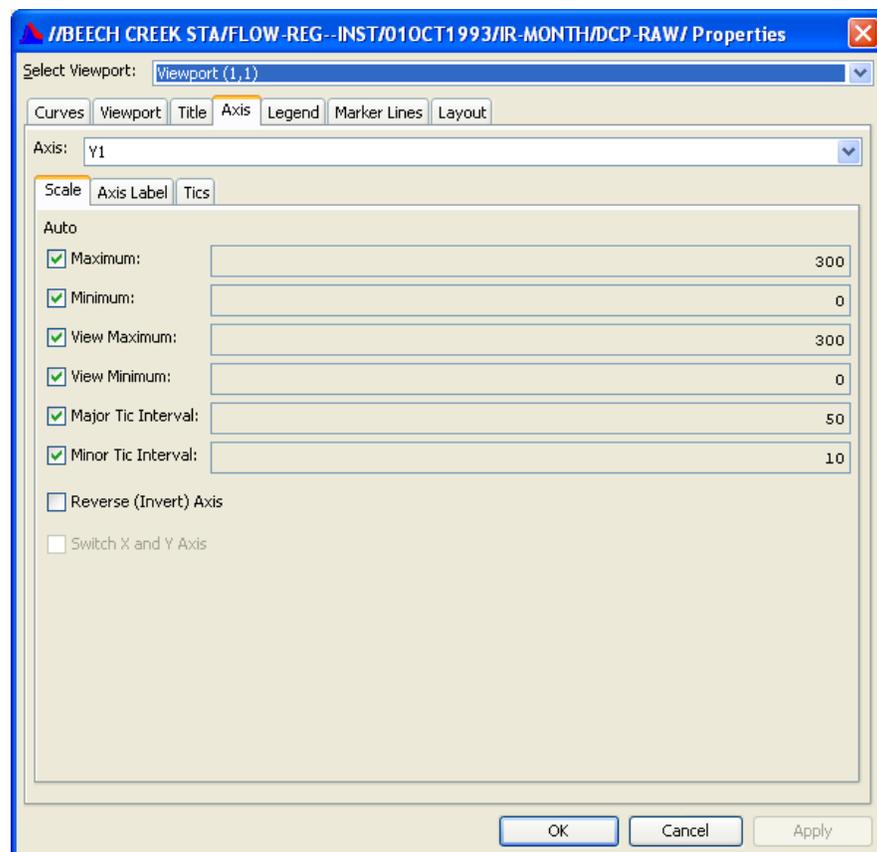


Figure 6.37 Plot Properties Editor - Scale Worksheet

With the **Scale** worksheet, you can specify the range of the scale, the amount of the scale that is visible, and the tic intervals.

If the checkboxes under the **Auto** heading are checked, the plot will automatically select the scale. Otherwise, as you zoom in and out of the plot, its view values change while the minimum and maximum scale range values remain fixed:

- **Maximum:** enter the value of the maximum range of the scale.
- **Minimum:** enter the value of the minimum range of the scale.
- **View Maximum:** enter the maximum visible range of the scale.
- **View Minimum:** enter the minimum visible range of the scale.

Tic intervals are the distances between tics on the axis scale:

- **Major Tic Interval:** specify the distance between each major tic.
- **Minor Tic Interval:** specify a value less than or equal to the major tic value.

You can also choose to reverse the axis and invert the data by selecting **Reverse (Invert) Axis**. If the data set is paired, you can switch the X and Y axis, so what is plotted on the X axis becomes plotted on the Y axis instead.

Click **Apply** to save and view your changes without closing the editor. Click **OK** to save your changes and close the editor.

6.8.3 Modifying Tic Marks

You can modify the color of tic marks, choose whether or not major and minor tic marks display, and specify whether labels display. (See also "**Specifying Axis Scale**" in Section 6.8.2 for information about modifying tic intervals.)

To modify tic marks in an *individual* plot, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, click the **Axis** tab. From the **Axis** worksheet, select the axis you want to edit from the **Axis** list. Once you have this set, click the **Tics** tab to set tic marks.
- Or-
- Right-click on the axis using the **Pointer Tool**  and from the **Axis Tics** shortcut menu (see Figure 6.36, page 6-25), click **Edit Properties**. When the **Axis Properties** dialog box opens, click the **Tics** tab.

To specify default settings for axis tics in *all* of your plots, click **Default Plot Properties** from the plot **Edit** menu. Once the **Default Plot Properties** editor opens, choose the **Axis** tab, then the **Tics** tab.

The **Tics** worksheet of the **Axis Properties** editor is shown in Figure 6.38 above. The **Tics** worksheet is nearly identical on the **Axis Properties** editor, **Plot Properties** editor, and **Default Plot Properties** editor.

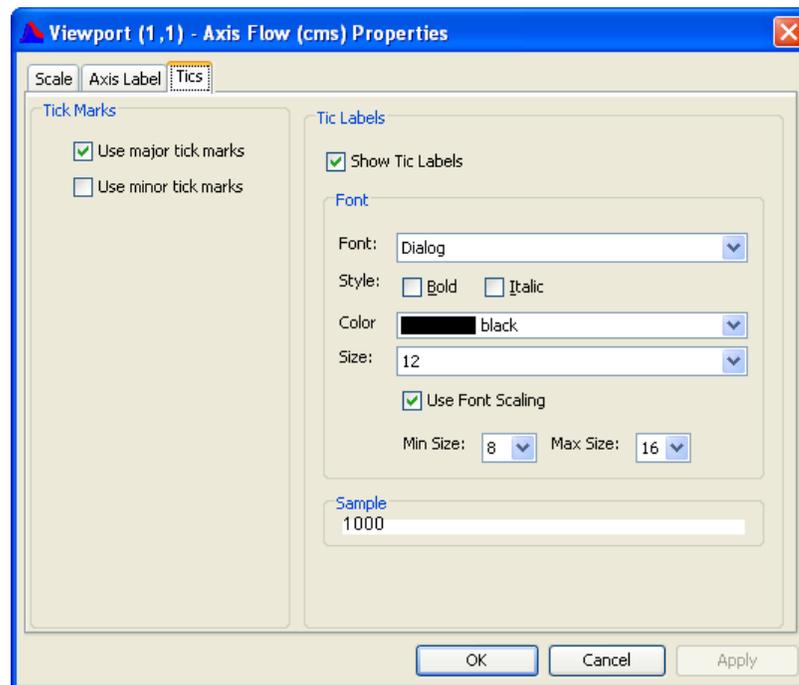


Figure 6.38 Axis Properties Editor - Tics Tab

However, at the top of the **Plot Properties** editor is an **Axis** list containing all of the axes available for editing in the selected viewport. In the **Plot Properties** editor, you must choose an axis to edit before you can make any changes to the tics.

By default, plot axes display major tic marks with labels. To turn these defaults off, uncheck the **Use major tick marks** and **Show Tic Labels** check boxes by clicking on them.

You can also select **Use minor tic marks**, to display the minor tic marks in the viewport.

To change the Tic Label:

1. The tic and tic labels use the same color. To change their color, select a new color from the **Color** list in the **Tic Labels** group.
2. Select the label's typeset using the **Font** list. The font can display as **Bold** or **Italic** by checking the checkboxes next to either **Style** option.

3. By default the **Size** is ignored, and **Use Font Scaling** is selected. **Use Font Scaling** allows the program to determine the best font size to display, using the **Min Size** and **Max Size** to limit the range of the font size.

Click **Apply** to save and view changes without closing the editor. Once you are done making changes in the editor, click **OK** to save the changes and close the editor.

6.8.4 Customizing Axis Labels

You can add borders and backgrounds to axis labels. To customize axis labels in an *individual* plot, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, select the axis label's viewport in the **Select Viewport** list at the top of the editor. Then click the **Axis** tab. On the **Axis** worksheet, select the axis you want to edit from the **Axis** list, and then click the **Axis Label** tab to set axis label properties.

-Or-

- Right-click on the axis label with the **Pointer Tool** . From the **Axis Label** shortcut menu (Figure 6.39), click **Edit Properties**. The **Label Properties** editor will open.



Figure 6.39 Shortcut Menu - Axis Label

To specify default settings for axis labels in *all* of your plots, select **Default Plot Properties** from the plot's **Edit** menu. Once the **Default Plot Properties** editor opens, choose the **Axis** tab, then the **Axis Label** tab.

The **Label Properties** editor is shown in Figure 6.40 (page 6-29). The same worksheet is available on the **Axis Label** tabs of the **Plot Properties** editor and **Default Plot Properties** editor, with a few differences. The **Plot Properties** editor has an **Axis** list containing all of the axes available for editing in the current selected viewport, which is displayed in the **Select Viewport** list.

The **Axis Label** worksheet has three groups: **Font**, **Border** and **Background**. The **Sample** box, located at the bottom left of the editor, provides a preview of the label changes.

The current label text is displayed in the **Text** box. To change the wording, highlight the displayed text in the box and type in the new axis

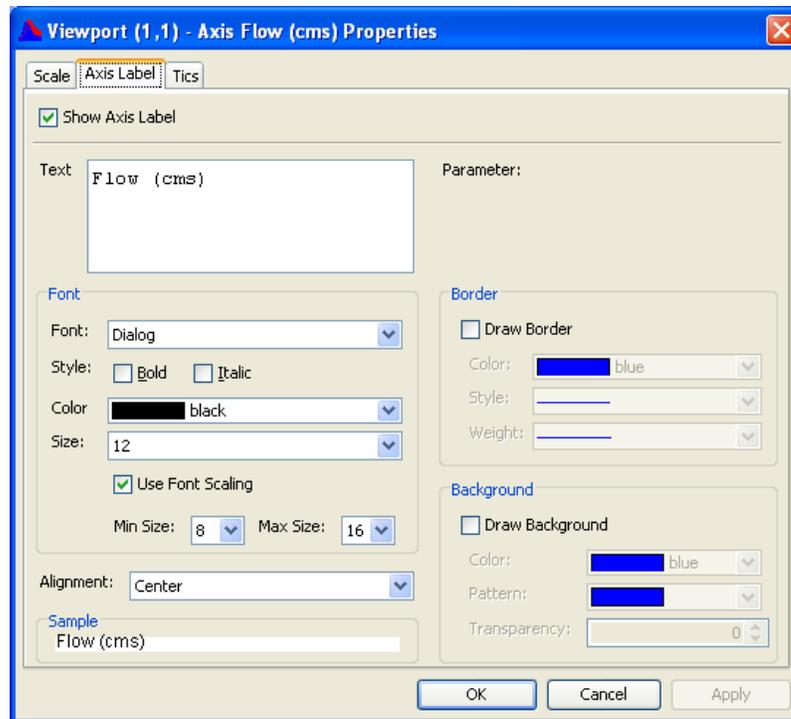


Figure 6.40 Label Properties Editor

label name. Text substitution can also be used here. See section 6.16 for more information on text substitution.

The font of the axis label can be customized using the tools located under the **Font** group. The text typeset can be changed using the **Font** list. The **Style** of the font can be changed by checking either the **Bold** or **Italic** checkboxes. Choose the color of your font in the **Color** list. By default the **Use Font Scaling** checkbox is set. This option allows the program to determine the best size of the font, limiting the range between the selected **Min Size** and **Max Size**. Otherwise, you can un-checking the **Use Font Scaling** and set a constant font size in the **Size** list.

The **Alignment** list allows you to position the label, Left, Right, or Center, relative to the axis.

To add a border around the axis label, check the **Draw Border** checkbox in the **Border** group, and then select the **Color**, **Style**, and **Weight** for the borderline.

To add a background to the axis label, check the **Draw Background** checkbox in the **Background** group, and then select a **Color**, **Pattern**, and the **Transparency** level.

Use the **Show Axis Label** checkbox to add or remove the axis label from the plot window.

Click **Apply** to save and view your changes without closing the editor.
Click **OK** when you are finished editing axis label properties.

6.9 Customizing Legends

As illustrated in Figure 6.41, you can add titles to a plot legend, add text and graphics to the right and left sides of the Legend box, and customize the curve labels in the Legend box. You can also specify whether the legend appears below, to the right, or inside the plot's viewports. The legend can even be displayed in a separate window or hidden from display.



Figure 6.41 Customizing Legends

To add a title or side blocks to an *individual* plot's legend, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, select the **Legend** tab.

-Or-

- Right-click in a blank area inside the legend panel of the plot with the **Pointer Tool** . From the **Legend Panel** shortcut menu (Figure 6.42), click **Edit Properties**. The **Legend Properties** editor will open.



Figure 6.42 Shortcut Menu - Legend Panel

To specify default settings for *all* of your plot legends, from the **Edit** menu, click **Default Plot Properties**. Once the **Default Plot Properties** editor opens, select the **Legend** tab.

Whether you are using the **Plot Properties** editor, **Legend Properties** editor, or **Default Plot Properties** editor, the worksheet for editing legend titles is the same.

The **Legend Properties** editor is shown in Figure 6.43 (page 6-31). This worksheet, accessed from the shortcut menu, contains the same fields as the **Legend** worksheets of both the **Plot Properties** editor and the **Default Plot Properties** editor.

To remove the legend from the plot window, uncheck the **Show Legend** checkbox on the editor, or from the plot window's **View** menu select **Hide Legend**. If you would like to add the legend back to the plot window,

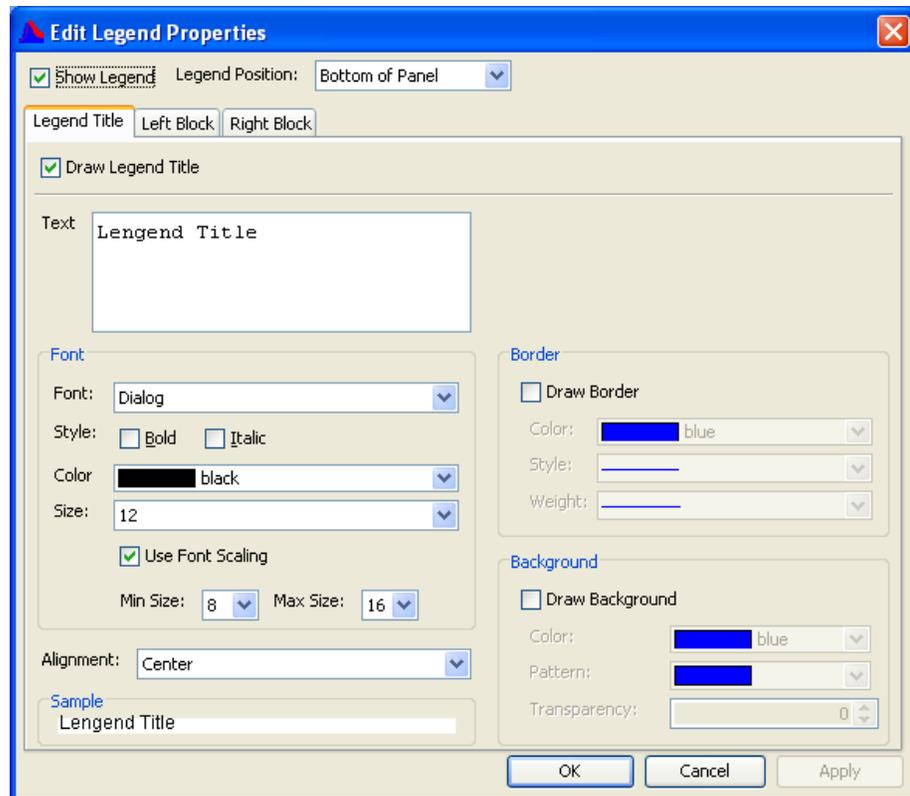


Figure 6.43 Legend Properties Editor

either re-check the **Show Legend** box on the editor, or on the plot window from the **View**, click **Show Legend**.

6.9.1 Legend Title

To add and customize a title for the legend:

1. On the **Legend Title** tab, select the **Draw Legend Title** checkbox. Then enter the title you want to appear along the top of the legend in the **Text** box.
2. In the **Font** group, select the typeset for the title in the **Font** list. The **Style** of the font can also be changed by checking either the **Bold** or **Italic** checkboxes.
3. By default the **Use Font Scaling** checkbox is set. This option allows the program to determine the best size of the font, limiting the range between the selected **Min Size** and **Max Size**. Otherwise, you can un-checking the **Use Font Scaling** and set a constant font size in the **Size** list.
4. Select the **Alignment** to position the title to the **Left**, **Right**, or **Center** of the legend.
5. If you would like the title to use a custom border check the **Draw Border** checkbox in the **Border** group. Then select the **Color**, **Style**, and **Weight** for the borderline.

6. Similarly, if you would like the title to use a custom background check the **Draw Background** checkbox in the **Background** group. Then select the **Color**, **Pattern**, and **Transparency** for the title's background.
7. The **Sample** box in the lower left corner will display a preview of your title.

6.9.2 Legend Blocks

To add and customize a **Left** or **Right Block** to the legend:

1. First select the **Left Block** or **Right Block** tab in the **Legend Properties** editor and check the **Draw Left Legend Block** or the **Draw Right Legend Block** checkbox; depending on which workbook you are editing. The workbooks are identical, except for these **Draw** checkboxes.
2. Type in the text for the block in the **Text** box.
3. In the **Font** group, select the typeset for the block in the **Font** list. The **Style** of the font can also be changed by checking either the **Bold** or **Italic** checkboxes.
4. By default the **Use Font Scaling** checkbox is set. This option allows the program to determine the best size of the font, limiting the range between the selected **Min Size** and **Max Size**. Otherwise, you can un-checking the **Use Font Scaling** and set a constant font size in the **Size** list.
5. Select the **Alignment** to position the block's text to the **Left**, **Right**, or **Center** of the legend.
6. If you wish to display a graphic in the block, under the **Icon** group either type the exact path* and filename of the image in the **File** field, or use the ellipse button  to use a file browser to find and select the image.
7. If you would like the block to use a custom border, check the **Draw Border** checkbox in the **Border** group. Then select the **Color**, **Style**, and **Weight** for the borderline.
8. Similarly, if you would like the block to use a custom background, check the **Draw Background** checkbox in the **Background** group. Then select the **Color**, **Pattern**, and **Transparency** for the title's background.
9. The **Sample** box in the lower left corner will display a preview of your legend block.

To move the legend to a new location, either select the location in the **Legend Position** list on the **Legend** tab of the editor or from the plot window, from the **View** menu, click **Legend Placement**. By default the legend is placed at the **Bottom of Panel**. Other options include: **Right of Panel**, **Separate Window**, **Viewport Upper Left**, and **Viewport Upper**

Right. If the legend displays in the viewport, the title and legend blocks will not appear, (Figure 6.44).

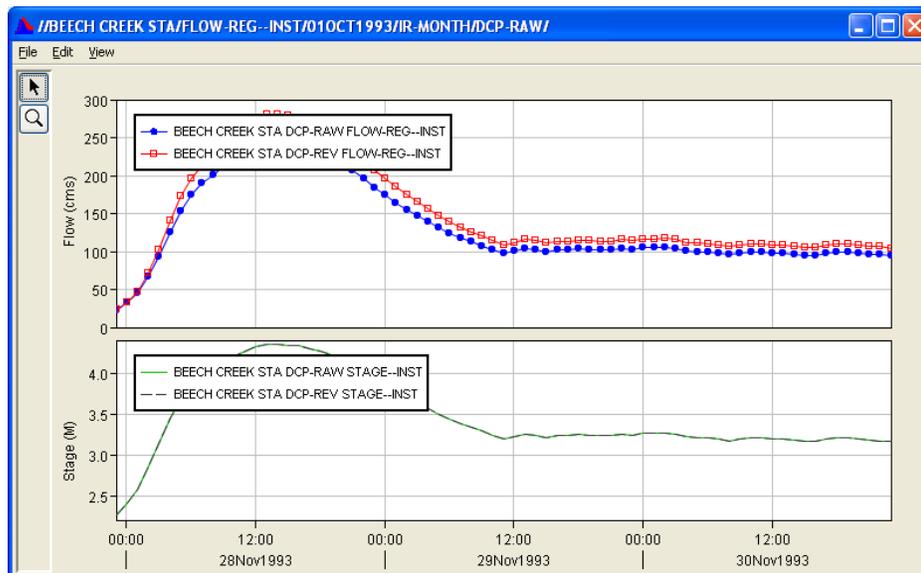


Figure 6.44 Viewport Upper Left

If the **Legend Position** is set for **Right of Panel** and the legend contains right and left blocks, the left block will be removed and the right block will display on the bottom of the legend, (Figure 6.45).

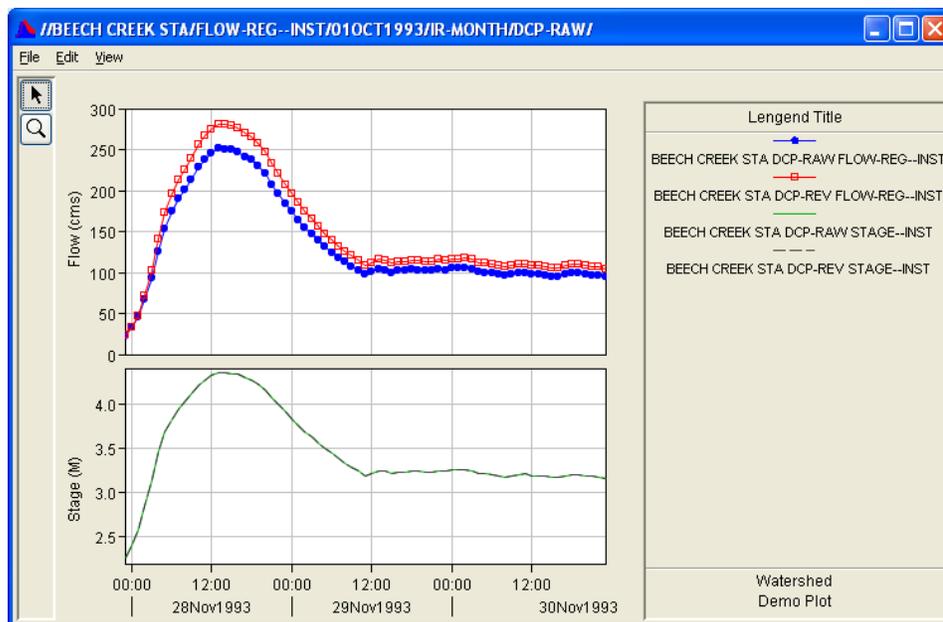


Figure 6.45 Viewport Right of Panel

Click **Apply** to view your changes without closing the editor. When you are done making changes to the legend click **OK** to save your changes and close the editor.

6.9.3 Customizing Legend Items

By default, the curves display their DSS Pathnames inside the legend. However, the legend labels, named **Legend Items**, can be customized for individual curves.

To change a curve's **Legend Item** in an *individual* plot's legend, you can either:

- From the **Edit** menu, click **Plot Properties**. When the **Plot Properties** editor opens, select the **Curves** tab, then the **Legend Item** tab (Figure 6.46).

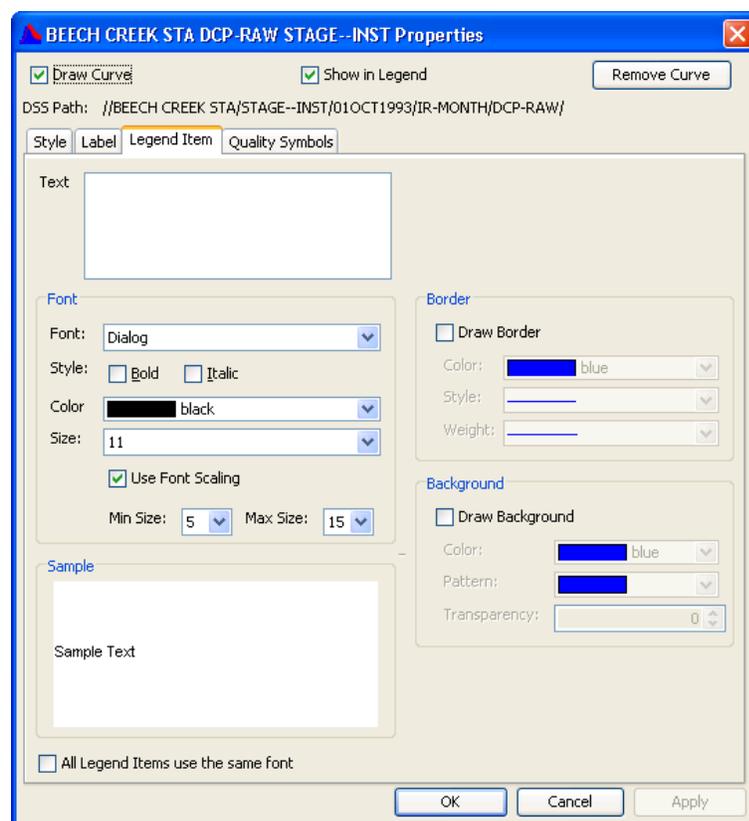


Figure 6.46 Legend Item Curve Properties Editor

-Or-

- Right-click on a Legend Item (curve label) in the legend with the **Pointer Tool** . From the shortcut menu (Figure 6.47), select **Edit Properties**. The **Curve Properties** editor will open.

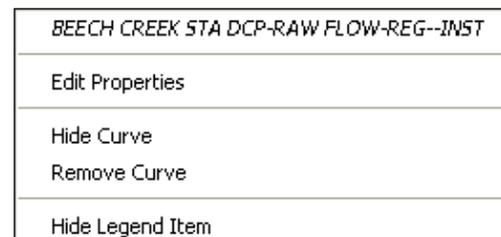


Figure 6.47 Shortcut Menu - Legend Curves

To specify default settings for *all* plot **Legend Items**, from the **Edit** menu, click **Default Plot Properties**. Once the **Default Plot Properties** editor opens, select the **Curves** tab, then the **Legend Item** tab. Whether you are using the **Plot Properties** editor, **Legend Properties** editor, or **Default Plot Properties** editor, the worksheet for editing Legend Items is the same.

To customize a **Legend Item**:

1. Enter the text you would like to display in the legend for the curve in the **Text** box. Text Substitution can also be used here, see Section 6.16 for more information.
2. In the **Font** group, select the typeset for the legend item in the **Font** list. A **Style** can be used for the font by checking the **Bold** and/or **Italic** checkboxes.
3. By default, the **Use Font Scaling** checkbox is set. This option allows the program to determine the best size of the font, limiting the range between the selected **Min Size** and **Max Size**. Otherwise, you can un-checking the **Use Font Scaling** and set a constant font size in the **Size** list.
4. If you would like the Legend Item to have a custom border around it, check the **Draw Border** checkbox in the **Border** group. Then select the **Color**, **Style**, and **Weight** for the borderline.
5. Similarly, if you would like the **Legend Item** to use a custom background check the **Draw Background** checkbox in the **Background** group. Then select the **Color**, **Pattern**, and **Transparency** for the item's background.
6. The **Sample** box in the lower left corner will display a preview of your Legend Item.
7. If you would like the font changes to apply to all of the Legend Items in the plot, click the **All Legend Items use the same font** checkbox at the bottom of the worksheet.

Click **Apply** to save your changes. Once you are done with the editor, click **OK** to save the changes and close the window.

6.10 Customizing Window Panels

You can customize the background color, size, and viewport spacing the window plots are displayed in.

To customize panel properties of an *individual* plot, from the **Edit** menu, click **Plot Properties**. Once the **Plot Properties** editor opens, select the **Layout** tab.

To specify panel properties for *all* of your plots, from the **Edit** menu, click **Default Plot Properties**. Once the **Default Plot Properties** editor opens, choose the **Layout** tab.

Whether you are using the **Plot Properties** editor or the **Default Plot Properties** editor, the **Layout** worksheet is the same. The **Layout** worksheet for the **Plot Properties** editor is shown in Figure 6.48.

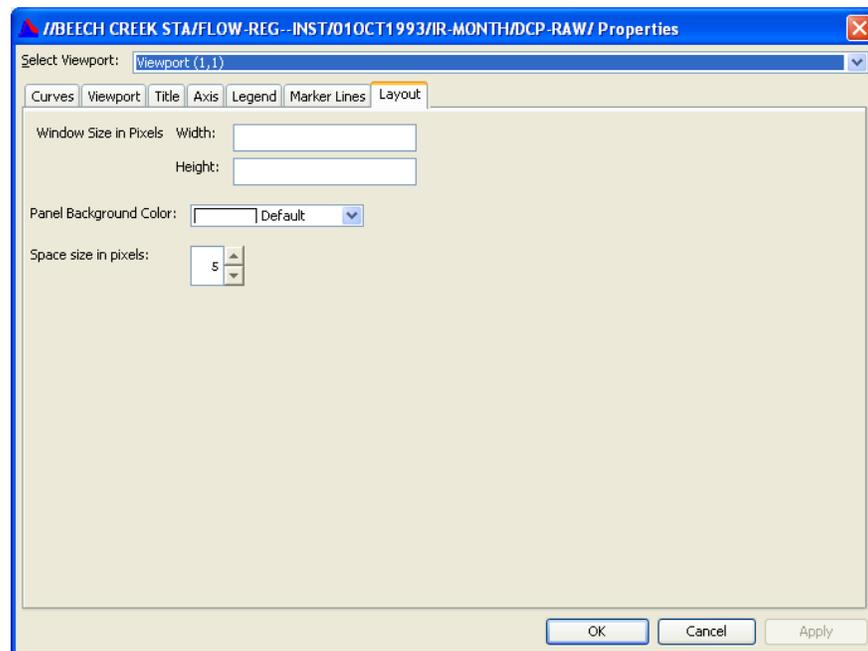


Figure 6.48 Default Plot Properties Editor - Layout Tab

6.10.1 Customizing the Panel Background Color

To customize the panel background color, select a color in the **Panel Background Color** list. The default color is named **Default**. The **Default** color uses the background color set by your computer's operating system.

6.10.2 Customizing the Horizontal Spacer Size

In the **Plot Properties** editor and **Default Plot Properties** editor, horizontal spacer size refers to the space between viewports in plots with multiple viewports.

To specify the horizontal spacer size using the **Layout** tab of the **Plot Properties** editor or **Default Plot Properties** editor, in the **Space size in pixels** field, either manually type in a size between 0 and 50 or use the up and down arrows to select a size.

6.10.3 Customizing the Window Size

In the **Plot Properties** editor and **Default Plot Properties** editor, on the **Layout** tab enter the **Width** and **Height** of your plot window. By default these values are empty, implying that the program will determine the best size for each plot window.

6.11 Customizing Plot Layout

The **Configure Plot** editor (Figure 6.49) displays plot components in a "tree" structure and allows you to customize the layout of an individual plot. You can add and remove axes as well as add, remove, arrange the order of, and set the weight of viewports in the plot window panel.

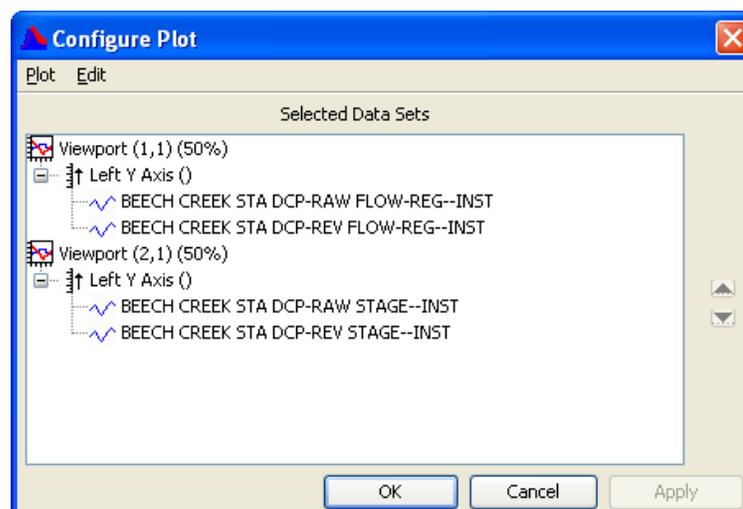


Figure 6.49 Configure Plot Editor

When you customize the layout of a plot using the **Configure Plot** editor, your changes apply only to that individual plot unless you export the plot's properties (see Section 6.12).

To access the **Configure Plot** editor, from the **Edit** menu, select **Configure Plot Layout**.

6.11.1 Adding and Removing Viewports

To add a new viewport to a plot, from the **Configure Plot** editor's **Edit** menu click **Add Viewport**. The new viewport will appear at the bottom of the "tree" in the **Selected Data Sets** box.

To remove an empty viewport, you can either:

- Click on the name of the viewport in the **Selected Data Sets** "tree". From the **Edit** menu, click **Remove Viewport**.
-Or-
- Right-click on the viewport's name in the **Selected Data Sets** "tree". From the shortcut menu (Figure 6.50), click **Remove**.

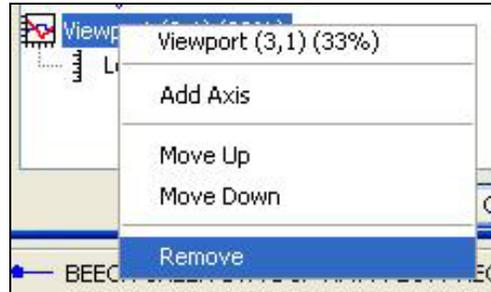


Figure 6.50 Shortcut Menu - Viewport

6.11.2 Setting Viewport Weights

You can customize the relative sizes of viewports in your plots. To do this:

1. From the **Edit** menu of the **Configure Plot Layout editor**, click **Set Viewport Weights**. The **Set Plot Viewport Weights** dialog box will open.
2. In the **Set Plot Viewport Weights** dialog box (Figure 6.51); you can specify the relative size of each viewport as a percentage value, with all of the weights adding up to 100%. Two viewports of equal weight at 50% each is shown in Figure 6.51.

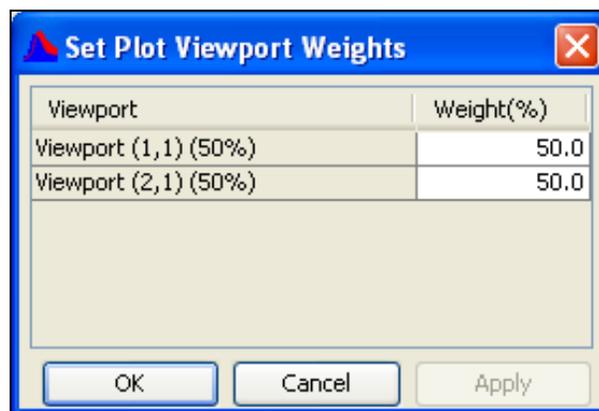


Figure 6.51 Set Plot Viewport Weights Dialog Box

Click **Apply** to save and view your changes without closing the dialog box or click **OK** save your changes and close the dialog box.

6.11.3 Adding and Removing Axes

By default, viewports have a left Y-axis. You can add a right Y-axis, remove both the left and right Y-axes, and add a new left Y-axis if you have previously removed it. Viewports can have a maximum of two axes. You cannot remove an axis when a data set is associated with it.

To add an axis to a viewport, from the **Configure Plot Editor** you can either:

- Click on the viewport's name in the tree in the **Selected Data Sets** box. From the **Edit** menu, click **Add Axis**.
- Or-
- Right-click on the viewports name in the tree in the **Selected Data Sets**. From the shortcut menu (see Figure 6.50, page 6-38), click **Add Axis**.

The tree now displays another axis for the viewport you selected.

To remove an axis that has no data associated with it, you can either:

- Click on the name of the axis you wish to remove in the tree in the **Selected Data Sets** box. From the **Edit** menu, click **Remove Axis**.
- Or-
- Right-click on the axis you wish to remove in the tree in the **Selected Data Sets** box. From the shortcut menu (see Figure 6.50, page 6-38), click **Remove**.

6.11.4 Arranging Viewports and Axes

You can rearrange the vertical order of viewports in a plot window and move axes (with their associated data sets) to different viewports.

To move a viewport or axis:

1. From the tree in the **Selected Data Sets** box, right-click on the name of a viewport or axis you want to move.
2. From the shortcut menu, click **Move Up** or **Move Down**.
3. Either click **OK** or **Apply** for the change to take effect in the plot window.

Note that you cannot move individual data sets in the **Configure Plot Layout** editor. You can move only the axis with which a data set is associated.

6.11.5 Reversing Axes (Invert Data)

To reverse the direction of an axis so that the data is inverted, in the **Configure Plot Layout** editor, right-click on the name of the axis in the tree. From the shortcut menu, click **Reverse**. Either click **OK** or **Apply** for the change to appear in the plot window.

6.12 Saving and Applying Templates

After you have customized a plot, you can save its settings as a template for use in other plots.

Generally, you will use templates when scripting plots. For example: generating a plot of flow, stage, and precipitation via a script every day, and then apply a template that has all of the correct formatting, such as viewport placement, size, line colors, and fills. For more information about using templates with scripts, refer to Chapter 8 on **Scripting**.

To create a template from a plot:

1. From the **File** menu, click **Save Template**.
2. A **Save** browser will open (Figure 6.52).

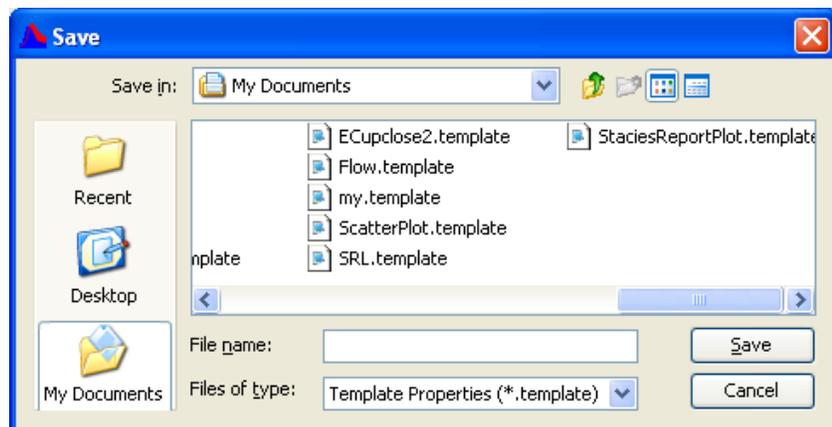


Figure 6.52 Save Browser

3. Give the template a name in the **File name** field and click the **Save** button. A **.template* file will be saved.

To apply a template created from a previous plot:

1. From the **File** menu, click **Apply Template**.
2. An **Open** browser will open (see Figure 6.53, page 6-41).
3. Move to the **.template* file's location and select it by clicking on it.

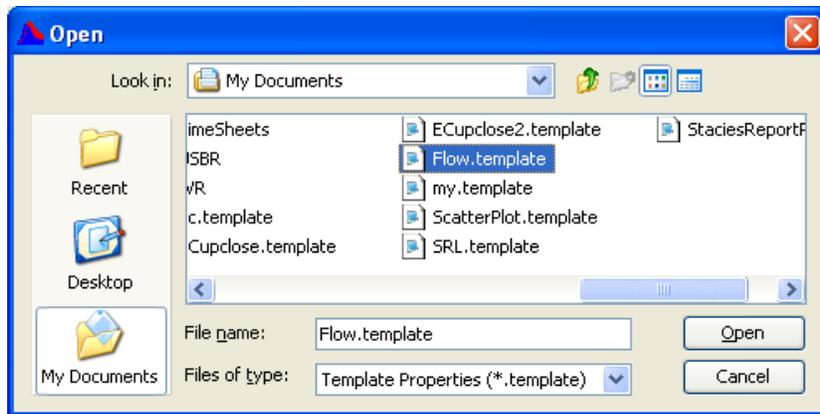


Figure 6.53 Open Browser

4. When you select a template, its name will display in the **File Name** field.
5. Click **Open** to apply the template to the current plot.

6.13 Additional Viewing Options for Plots

The **File** menu of plots (Figure 6.54) contains several commands that allow you to view plot data in tabular form, save, copy, paste, and print plots. Copy can be used to copy the plot into other applications available on your computer.

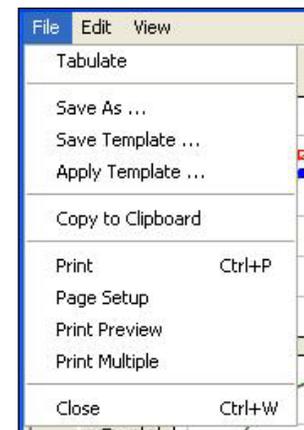


Figure 6.54 File Menu

6.13.1 Viewing Data in Tabular Form

To view plot data in tabular form, from the **File** menu, click **Tabulate**. A dialog box will open displaying the data in tabular form (Figure 6.55). For more information about tables, refer to Chapter 4 on **Utilities**.

Ordinate	Date / Time	BEECH CREEK STA FLOW-REG--INST DCP-RAW	BEECH CREEK STA FLOW-REG--INST DCP-REV	BEECH CREEK STA STAGE--INST DCP-RAW	BEECH CREEK STA STAGE--INST DCP-REV
Units		CMS	CMS	M	M
Type		INST-VAL	INST-VAL	INST-VAL	INST-VAL
1	27 Nov 1993, 23:03	22.30	23.68	2.2700	2.2700
2	28 Nov 1993, 00:03	32.56	33.15	2.4100	2.4100
3	28 Nov 1993, 01:03	45.48	46.67	2.5800	2.5800
4	28 Nov 1993, 02:03	66.26	71.58	2.8500	2.8500
5	28 Nov 1993, 03:03	92.61	102.49	3.1400	3.1400
6	28 Nov 1993, 04:03	125.62	141.12	3.4500	3.4500
7	28 Nov 1993, 05:03	153.61	172.70	3.6800	3.6800
8	28 Nov 1993, 06:03	174.36	195.76	3.8300	3.8300
9	28 Nov 1993, 07:03	189.59	212.75	3.9400	3.9400

Figure 6.55 Data in Tabular Form

6.13.2 Saving Plots

You can save a plot as an image as a Windows Metafile (*.wmf), Postscript (*.ps), JPEG (*.jpg, *.jpeg), or Portable Network Graphics (*.png).

To save a plot as a graphic file, from the **File** menu, click **Save As**. From the **Save** browser (Figure 6.56), select the location where you want to save the plot, enter a filename in the **File name** box, and select the file type you want from the **Files of type** list, then click **Save**.

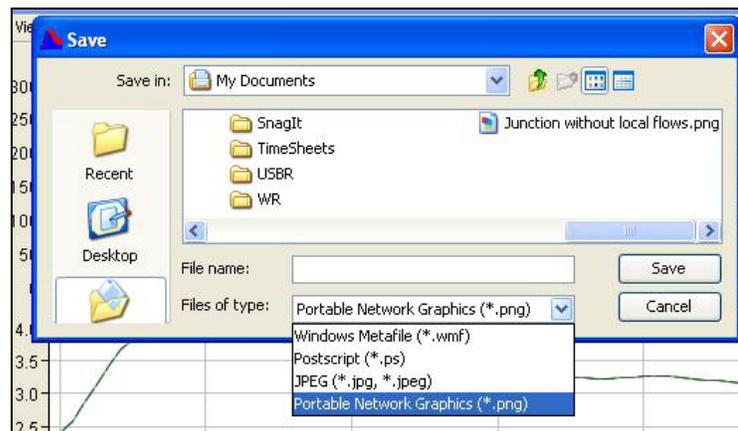


Figure 6.56 Save Browser - Plots

6.13.3 Copying Plots to the Clipboard

Use **Copy to Clipboard** from the **File** menu to copy a plot to the clipboard. You can then paste the plot as an image into other applications that are available on your computer.

6.14 Printing Plots

The **Print** command, available from the **File** menu of a plot, opens a standard, Windows-style print dialog box.

From the **File** menu, click **Page Setup**. The **Page Setup** dialog box will open (Figure 6.57). Here you

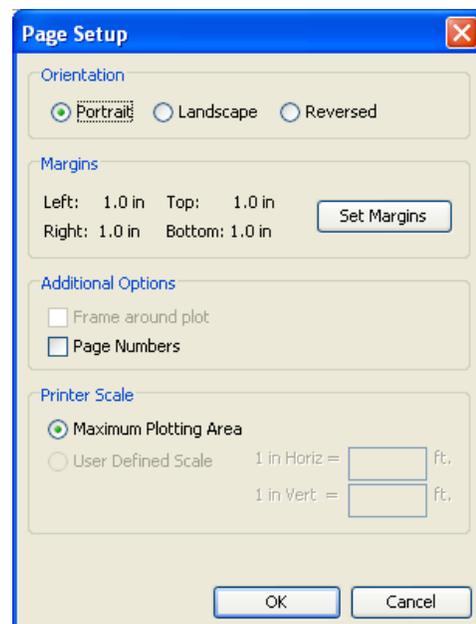


Figure 6.57 Page Setup Dialog Box

can set the page **Orientation**, **Margins**, **Page Numbers**, and **Printer Scale**. **Set Margins** opens the **Printer Margins** dialog box (Figure 6.58).

To view the plot as it will be printed, from the **File** menu, click **Print Preview**. An example is shown in Figure 6.59.

Finally, the **Print Multiple** command allows you to print several plots on one page. The **Print Multiple** dialog box (Figure 6.60) shows all of the currently open plots in the **Available Plots** box. To select plots for printing, double-click on the plots in the **Available Plots** box and the selected plots will move to the **Selected Plots** box. Next, use the slider bars to specify the number of plots you wish to appear horizontally and vertically on the page. The grid to the right of the sliders reflects your choices.

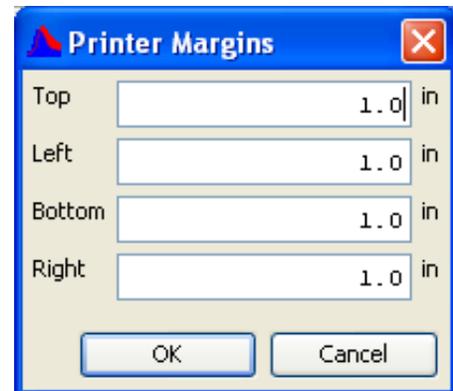


Figure 6.58 Printer Margins Dialog Box

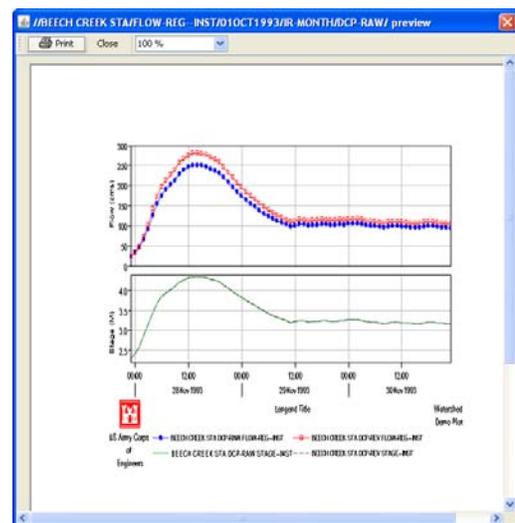


Figure 6.59 Example Print Preview of a Plot

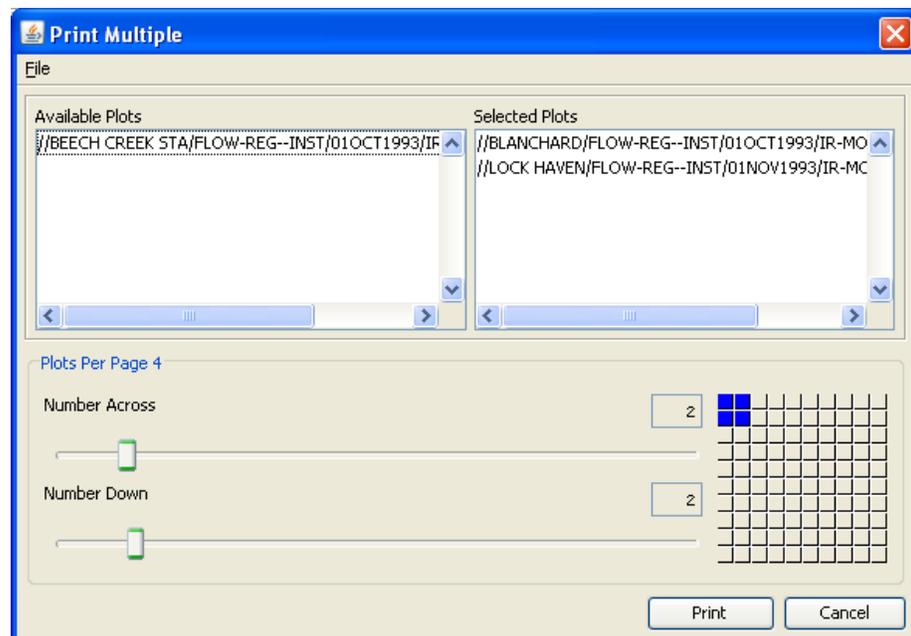


Figure 6.60 Print Multiple Dialog Box

A preview of the plots set up above is shown in Figure 6.61. From the **Print Multiple** dialog box, you can also use the **Page Setup** and **Print Preview** commands. The two commands are available from the **File** menu of the **Print Multiple** dialog box.

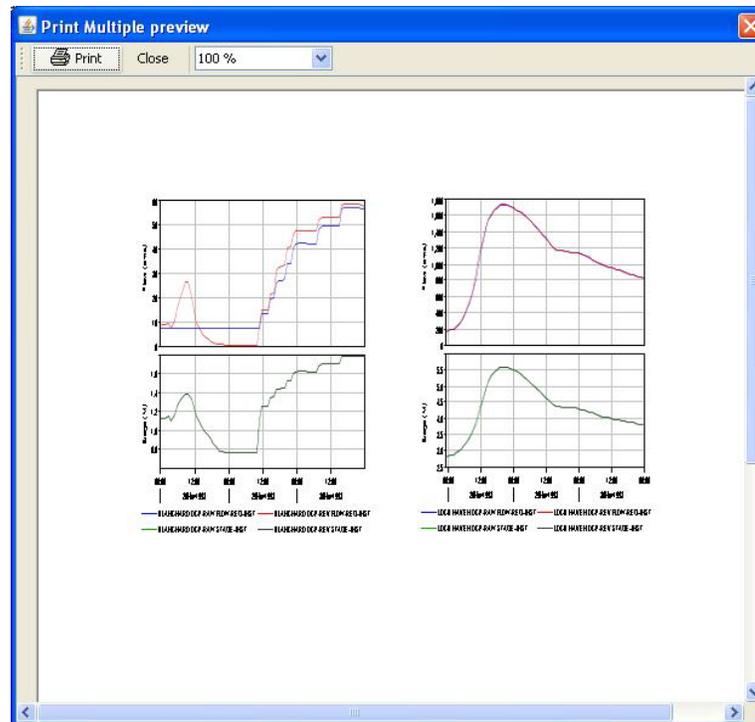


Figure 6.61 Print Multiple Preview Dialog Box (Example)

6.15 Importing and Exporting Default Plot Properties

Plot property changes made in a plot's **Default Plot Properties** editor apply to all plots used within the **HEC-DSSVue** application. However, if you would like to use the same defaults for another HEC application, you can import or export the properties. The properties must be moved from/to a compatible HEC "Next Generation" java based software application.

Examples of compatible software are: HEC-DSSVue, HEC-FIA, HEC-ResSim, HEC-RAS, HEC-HMS, CWMS, etc.

6.15.1 Exporting Default Plot Properties

Before you can import default plot properties, the properties must first be exported. By exporting the properties, you create a *.zip file of all the necessary default plot property files needed.

To **Export** default plot properties:

1. In a plot window from the **Edit** menu, click **Default Plot Properties**. In the **Default Plot Properties** dialog box, click **Export** (Figure 6.62).

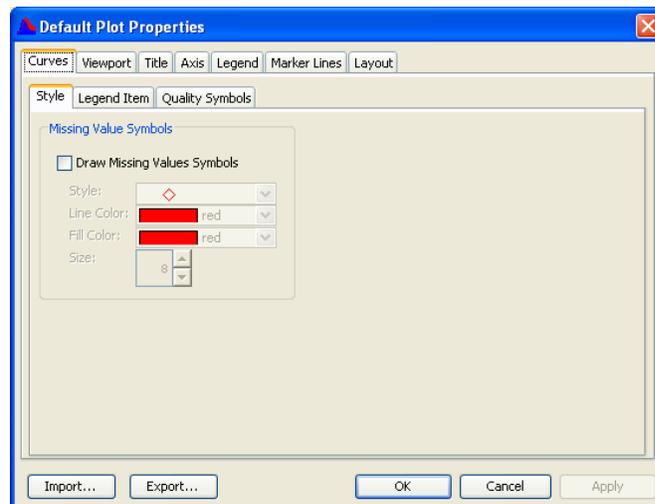


Figure 6.62 Default Plot Properties Dialog Box

2. A **Save** browser will open (Figure 6.63). In the **Save** browser, type in a name for your default plot properties in the **File name** field, then click **Save**.

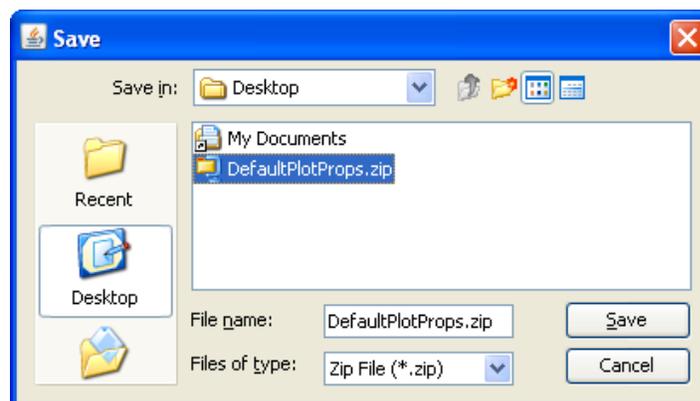


Figure 6.63 Save Browser - Exporting Plot Properties

3. A *.zip file will be created containing all the files needed to import the properties to a different HEC application.

6.15.2 Importing Default Plot Properties

Once you have exported the default plot properties from a compatible HEC application, you can then **Import** them to a different HEC application.

To **Import** default plot properties:

1. In a plot window from the **Edit** menu, click **Default Plot Properties**. In the **Default Plot Properties** dialog box, click **Import** (see Figure 6.62, page 6-45).
2. An **Open** browser will open (Figure 6.64). Using the **Open** browser, select the *.zip default plot properties file, and then click **Open**.

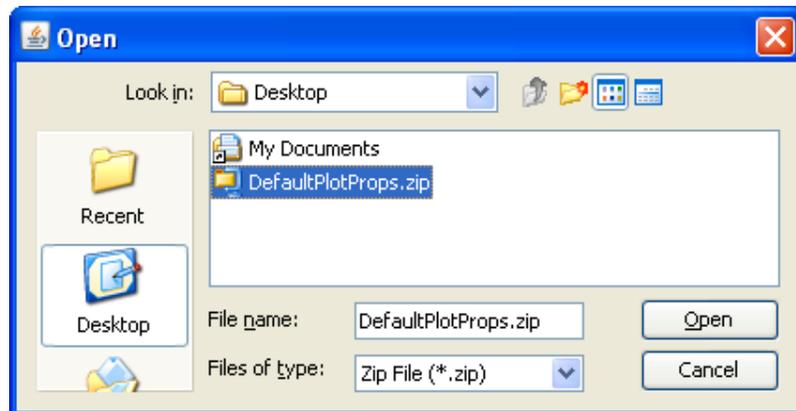


Figure 6.64 Open Browser - Importing Plot Properties

3. The default properties in the *.zip file will be imported and extracted into the current application. The changes will be reflected in the **Default Plot Properties** editor.

6.16 Text Substitution

In all locations where the plot properties editors allow you to enter text, for example: the **Plot Title**, **Legend Title**, **Axis Labels**, **Legend Labels**, etc. you can use text substitution. Text substitution is when you set the text using predefined keywords based on Date/Time and DSS related information. These keywords will be used as a look-up and replaced when the text is used in the plot window according to the selected DSS data.

In order for Keywords to be recognized as such, they must be bracketed on each side by % characters. For example: %BPART% would result in the "BPART" of the DSS path being written in the final display text. If you would like to have the actual percentage sign in the display text, use two % characters in a row %% and the second one will be displayed.

By default, the first DSS path provided in the plot will be used for the text substitution. However, adding a colon and integer value to the substitution keyword will instruct the substitution algorithm to use a different path. For example %BPART:3% would show the "BPART" of

the third DSS path provided in the plot. If there were less than three paths provided in the plot, the last DSS path listed would be used for the substitution.

Text substitution keywords may be mixed with fixed text.

For example:

The text: Final Results at %BPART%

Would display: Final Results for SHASTA

Using the DSS path: //SHASTA/ELEV/1HOUR/01JAN2000/ALT1/

The following is a list of available text substitution keywords:

DSS Path Parts:

APART	DSS path A part
BPART	DSS path B part
CPART	DSS path C part
DPART	DSS path D part
EPART	DSS path E part
FPART	DSS path F part
DSSPATH	full DSS path

DSS File:

DSSFILENAME	DSS file name only (without <i>.dss</i> extension)
DSSFILEPATH	Full path to DSS file, including file name and extension
DSSFILEDIR	Directory containing DSS file

Current Date/Time:

CURDATE	Current Date (DDMMMYYYY)
CURMON	Current Month
CURDAY	Current Day
CURYEAR	Current Year
CURTIME	Current Time

