2.7 Plotting Templates

Plot templates allow you to create a plot involving particular slots on particular objects and then generalize this plot as a "template". You can then apply the template to other objects and slots of the same type. This is useful when you have data that you wish to plot for many objects or slots.

For example, for a basin with 10 reservoirs, you may wish to view Storage and a guide curve, Outflow and flow targets, and Energy produced. You wish to view this exact same data in the same plotting format for each reservoir. Plot templates allow you to create and configure one plot, save that as a template and then apply that to the other 9 reservoirs in the basin.

Another example, you might create a 3X1 plot that has the following curves by plot:

- BigReservoir.Pool Elevation and BigDataObject.FloodGuide
- BigReservoir.Storage and DeepReservoir.Storage
- BigReservoir.Outflow

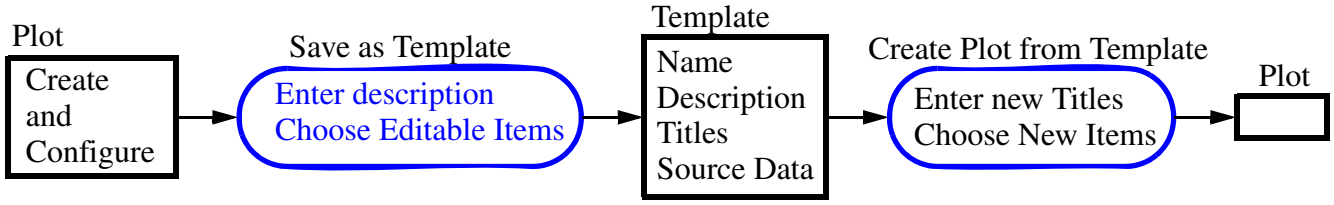
Turning this plot into a template will give you the ability to easily substitute reservoirs, for example, into the template:

- SmallReservoir for BigReservoir
- ShallowReservoir for DeepReservoir
- SmallDataObject for BigDataObject

This could then create the 3X1 plot that has the following curves by plot:

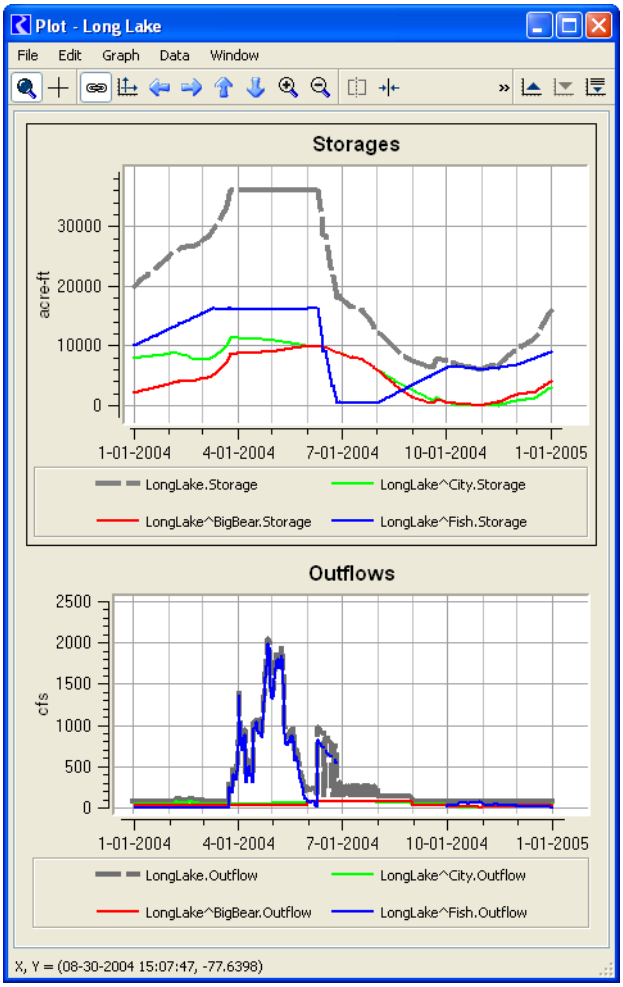
- SmallReservoir.Pool Elevation and SmallDataObject.FloodGuide
- SmallReservoir.Storage and ShallowReservoir.Storage
- SmallReservoir.Outflow

There are three aspects to creating and using plot templates as described in the following sections.



2.7.1 Create and configure a base plot

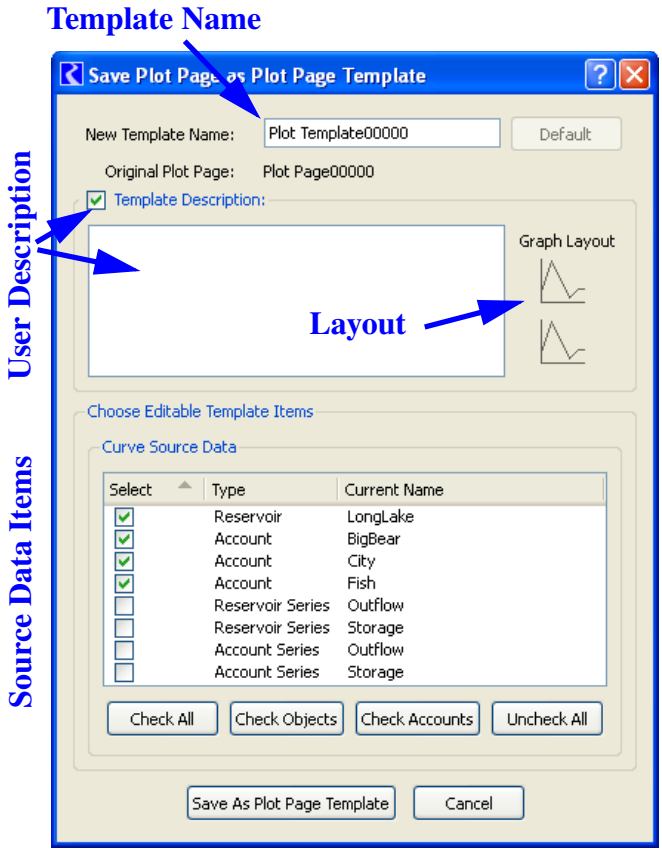
A plot template is create from an existing plot. Thus, it is important to configure the plot as desired before saving it as a template. Make sure you have your colors, line widths, axis labels, axis precision, and titles correct. Once you save the plot as a template, you cannot change these settings in the template itself. You can change any configuration setting in plots generated from the template, but configuring it as desired in the first place, can save you time. Following is the original plot used in the subsequent example screenshots.



2.7.2 Save a plot as a Template

Once a plot is configured as desired, you can save it as a template by choosing: **File ➥ Save As Template...,**

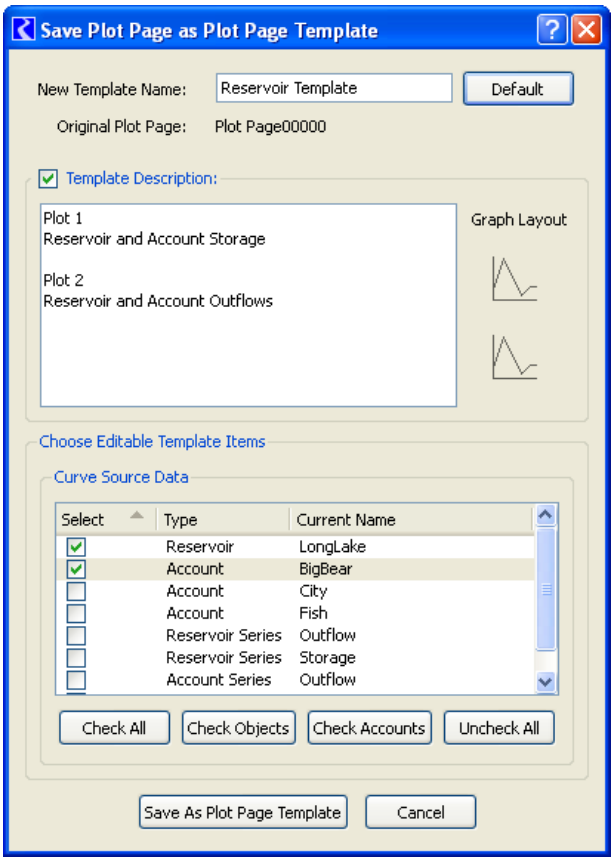
This opens the **Save Plot Page as Plot Page Template** dialog shown in the following screenshot.



In the **Save Plot Page as Plot Page Template** dialog, the user specifies the Name of the new template, and any Descriptive text about the plots in the template. This description can optionally be hidden by clicking on the toggle next to the **Template Description**. You should enter enough text in here to describe the items in the template. The graph layout is shown to help describe the template. Tooltips (mouse-hover) on the graph icon show the Title for each graph.

The bottom part of the dialog, **Choose Editable Template Items** is where you specify which items in the plot you want to make editable in the template. Click on the toggle next to the desired items to choose it. Options include:

- Objects
- Accounts
- Slots
- Supplies



Because certain slots (like Hydrologic Inflow) are only available for certain objects, (Reservoirs). The slots are broken into further types such as “Reservoir Series” or “Account Series”. Also, because certain objects only have certain slots, substitution is limited to like object. Thus, in the same screenshot, Long Lake is classified as a “Reservoir”.

In this example, we will choose the first two items in the list: Long Lake Reservoir and Big Bear Account

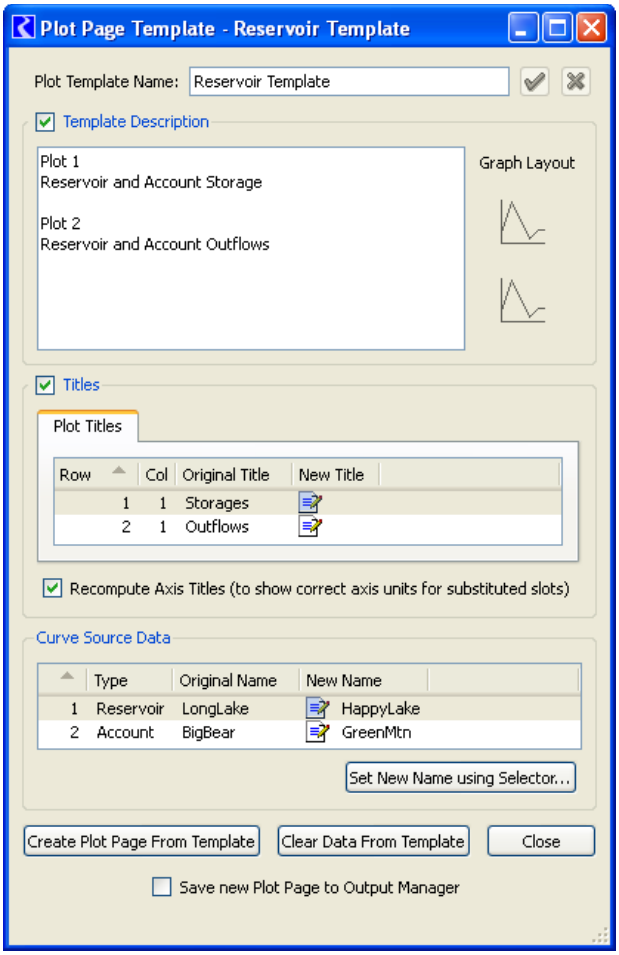
Buttons at the bottom of the frame allow you to **Check All**, **Check Objects**, **Check Accounts**, **Uncheck All**.

When finished, click **Save As Plot Page Template**. The dialog closes and the Output Manager opens with the newly created Plot Page Template selected.

If the **Save As Plot Page Template** is inactive, the tooltip describes the reason.

2.7.3 Apply the Template

Once the template has been created, it is stored in the **Output Manager**. From the **Output Manager**, highlight the template item and click **Generate** or **Edit** (or double click the item). The **Plot Page Template** dialog opens. It shows the Templates Name, Description, Titles, and Curve Source Data as described in the following section:



Plot Template Name: The Plot Template Name is shown. If you would like to change the name of the template, enter a new name and click the green check to confirm.

Template Description: This shows the description entered when the template was created. This description is not editable. The region also shows the layout for informational purposes. Tooltips (mouse-hover) on the graph icon show the original Title for each graph.

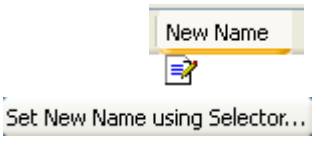
Titles: The titles for the original graphs are shown. You can hide the whole region by clicking on the **Titles** checkbox.

Edit titles as necessary by clicking on the **New Title** cell and entering new text.

When you substitute a slot that has different units, the default axis titles (i.e. the units) will not be correct. To recompute the axis titles, check the **Recompute Axis Titles** box. If you wish to keep the original axis titles, un-check the box.

Curve Source Data: The Curve Source Data region is where you substitute new items for the originals. There are two ways to do this:

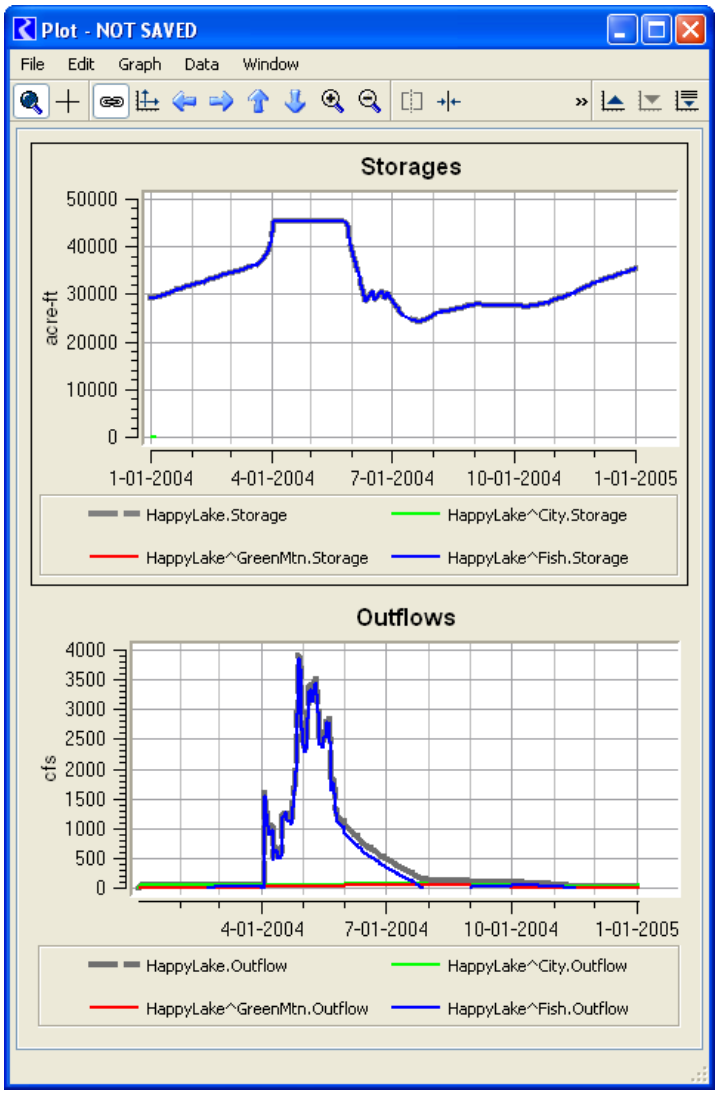
- Click in the New Name field and type in new text.
- Select a row and then click the **Set New Name using Selector...** This opens the Selector dialog preset to the appropriate type. For example, if you are substituting for a Reservoir, the selector will only allow you to choose from Reservoirs.



Buttons: The buttons at the bottom of the window allow you to create the plot, clear the data (**New Titles** and **New Names**) from the template or close the dialog.

A final checkbox at the bottom, when checked, will open a **Save As** dialog allowing you to immediately save the generated plot to the **Output Manager**.

When you **Create Plot Page From Template** a plot is created with the new data substituted for the old, see the sample to the right. If you left any New Name fields blank, the template's original values will be used. Also, if your template does not apply to certain data in the graph, it will just be plotted as it was orginally.



The template remains open and has not changed. You can then specify new source data for the template, Clear Data from Template or close the dialog.

In the generated plot, if the source data does not exist, the plot will be created with a placeholder. For example, in the top graph on the right, there is no HappyLake^GreenMtnStorage, so there is a legend item, but no data is plotted. You can pick new slots for such curves or delete them using the menu shown by clicking on the curve in the legend.

If no data can be plotted at all (for example you specified an object that does not exist on the workspace), the plot may be completely blank with no axis.

Also, the plot is zoomed as it was in the original plot, you may need to Auto Scale to see the new curves.

The newly created plot is a normal plot that you can change and/or save to the output manager as desired. It can also be saved as a plot template, possibly replacing the original template from which it was generated.