

# Tabular Series Slot Report User Guide

## RiverWare 5.2

### 1.0 Overview

The Tabular Series Slot Report is a new RiverWare “Output Device” which generates a plain text or HTML document showing, in a table or multiple tables, series values for a set of RiverWare series slots. The data for each series slot is displayed in one column of the tables.

### HTML Report

BigRes Account Summary Report

Run #37, Policy set #3.  
Non-iterative.

	BAllocIn acre-ft/day	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft	B36TranIn acre-ft/day
01-01-1996	627.55	627.55			218793.00	
01-02-1996	656.05	218.18	437.86	87685.00	219230.86	437.86
01-03-1996	229.79	216.20	451.46	87685.00	219244.46	13.59
01-04-1996	578.36	216.20	813.61	87247.14	219606.61	362.16
01-05-1996	565.29	216.20	1162.70	87233.54	219955.70	349.09
01-06-1996	571.84	216.20	1518.35	86871.39	220311.35	355.65
01-07-1996	560.13	216.20	1862.28	86522.30	220655.28	343.94
Sum:	3789.01	1926.73		523244.36		1862.28
Mean:	541.29	275.25	892.32	87207.39	219685.32	310.38

[1]: Minimum Requested

### Text Report

BigRes Account Summary Report

Run #37, Policy set #3.  
Non-iterative.

	BAllocIn acre-ft/day	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft	B36TranIn acre-ft/day
01-01-1996	627.55	627.55			218793.00	
01-02-1996	656.05	218.18	437.86	87685.00	219230.86	437.86
01-03-1996	229.79	216.20	451.46	87685.00	219244.46	13.59
01-04-1996	578.36	216.20	813.61	87247.14	219606.61	362.16
01-05-1996	565.29	216.20	1162.70	87233.54	219955.70	349.09
01-06-1996	571.84	216.20	1518.35	86871.39	220311.35	355.65
01-07-1996	560.13	216.20	1862.28	86522.30	220655.28	343.94
Sum:	3789.01	1926.73		523244.36		1862.28
Mean:	541.29	275.25	892.32	87207.39	219685.32	310.38

[1] Minimum Requested

The configurable properties of the generated report document include:

- Title and subtitle text
- The ordered list of series slots, and optional alternate column labels for each slot column.
- The series date range (with an option to use the model run date range)
- A choice of showing the full range in a single table, or a separate table for a fixed number of timesteps, or a table for each month.
- When selecting separate tables, the printed output can optionally include page breaks between tables.
- Optional omission of slots having only “NaN” values or only “NaN” or zero values.
- Optional display of NaNs and/or Zeros as blanks.
- For the HTML report, configurable fonts and cell background colors for various types of text and numeric data.

### 1.0.1 Contents

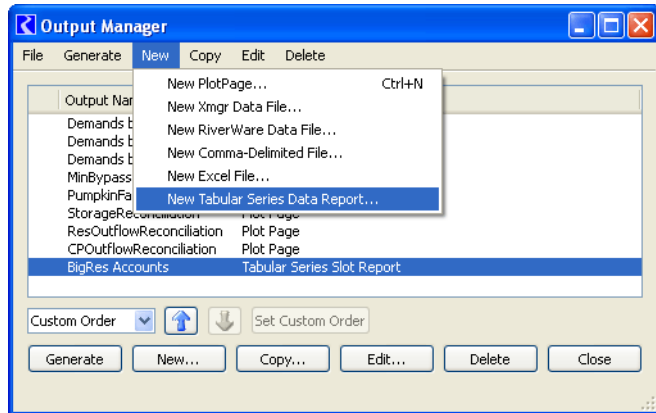
1.0	Overview .....	1
2.0	Creating a new Tabular Series Slot Report configuration .....	2
3.0	Configuring Tabular Series Slot Reports .....	3
3.1	Configuration: Titles Tab .....	4
3.2	Configuration: Settings Tab .....	5
3.3	Configuration: Slots Tab .....	7
3.4	Configuration: Output Tab .....	9
3.4.1	HTML Report CSS Text Styles .....	10
3.4.2	HTML Report Table Cell Colors .....	11
4.0	Importing and Exporting Tabular Series Slot Report configurations ..	12
5.0	Generating Tabular Series Slot Reports .....	13
5.1	File Type Association Manager .....	14
6.0	Viewing an Existing Tabular Series Slot Report .....	14

## 2.0 Creating a new Tabular Series Slot Report configuration

Tabular Series Slot Report configurations are automatically saved within the RiverWare file as a particular type of “Output Device” (i.e. like a Plot Page, RiverWare Data File, Comma-Delimited File or Excel File).

New report configurations are created within the Output Manager dialog. To create a new report ...

1. From the RiverWare workspace menu, ... select the Utilities >> Output Management item.
2. From the Output Manager dialog menu, ... select the New >> Tabular Series Slot Report item.
3. Fill out the full configuration for the new report (*see the next section*), and click the Save button.



### 3.0 Configuring Tabular Series Slot Reports

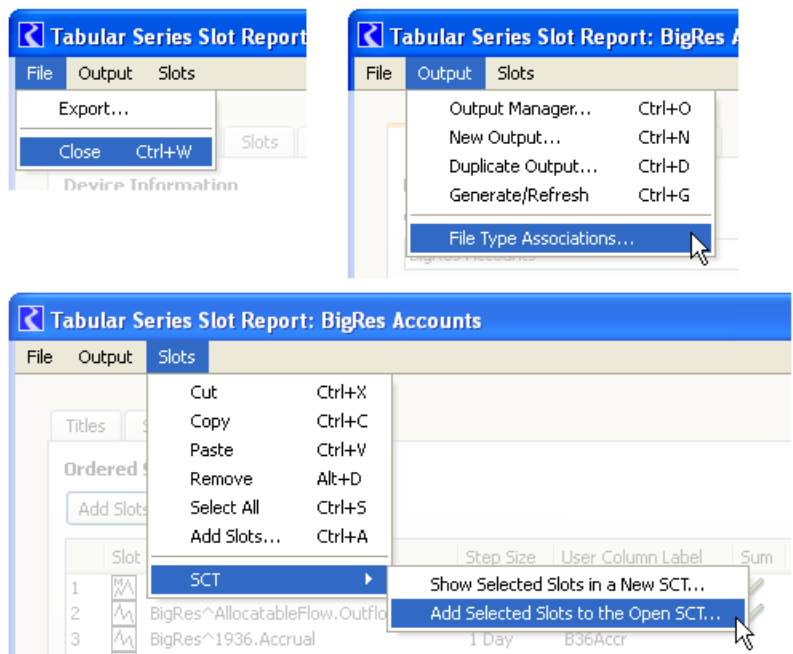
When creating a new Tabular Series Slot Report configuration, or editing an existing one, the user makes selections and entries in these four tabs within the Output Configuration editor -- *described in subsequent sections*.

- Titles Tab
- Settings Tab
- Slots Tab
- Output Tab

The Output Configuration dialog for Tabular Series Slot Reports has menu operations similar those available for other RiverWare “Output Devices” -- *see image to the right*.

The “**Output >> File Type Associations...**” menu item is particular to Tabular Series Slot Reports. This is described in the section, *Generating Tabular Series Slot Reports*.

The “**Slots >> SCT >> ...**” operations are new, and are available for all RiverWare Output Devices. These two operations show the items selected within the Output Device’s slot list in an SCT -- either in a new SCT or in the single open SCT. The latter operation is available only if exactly one open SCT is visible (not minimized).

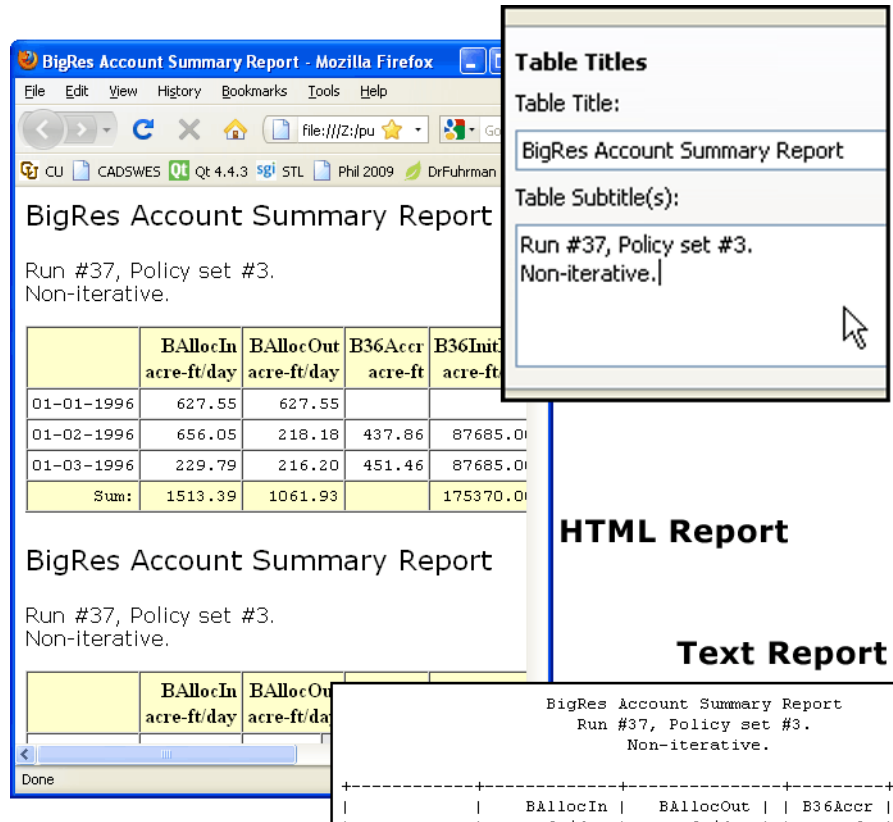
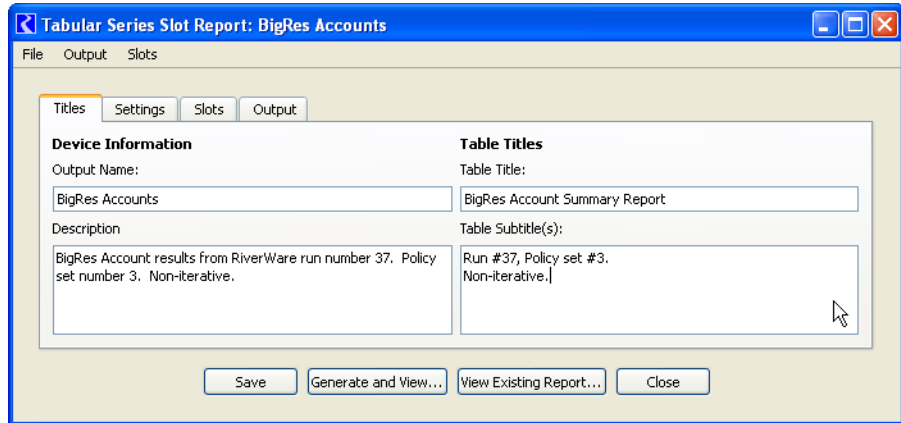


### 3.1 Configuration: Titles Tab

On the Titles Tab, the user enters text for:

- Output Name -- The name of the Output Device for this report configuration.
- Description -- This is not shown in the generated report.
- Table Title -- Shown above each time interval table (on each printed page, if page breaking is selected).
- Table Subtitle(s) -- a multiple line note shown right below each Table Title.

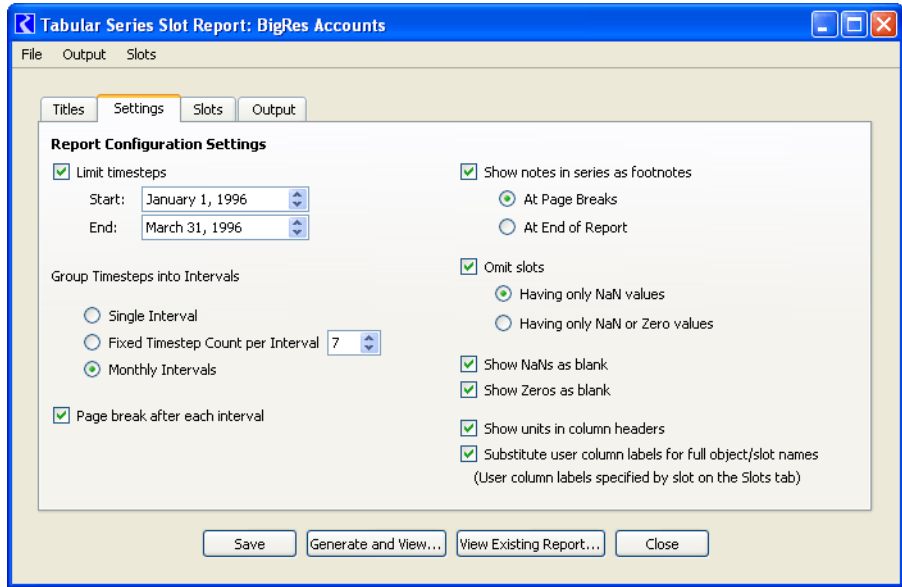
This image illustrates the use of the Table Title and Table Subtitle(s) in both the generated plain text and HTML reports. For the HTML report, title text fonts for both of these titles are configuration -- see the Output Tab section, below.



### 3.2 Configuration: Settings Tab

On the Settings Tab, the user can:

- Optionally limit the series output time range
- Specify how the full time range will be divided into distinct interval tables, optionally each on its own printed page.
- Choose to show the series text annotations (“notes”) which have been added to specific timesteps on various series slots. Note text is shown as footnotes, either below each table (on each printed page), or at the end of the entire report. *(This setting is illustrated on the next page).*
- Choose to exclude from the report slots having only NaN values, or only NaN or Zero values.
- Show NaNs and/or Zeros as blank table cells.
- Show units in column headers. *(See image to the right).*
- Substitute alternate column labels for the full slot names. Alternate (user supplied) column labels are specified for each slot on the Slots tab. *(See the image below).*



Show units in column headers

	BAllocOut	B36Accr	B36InitReq	B36Stor
01-04-1996	216.20	813.61	87247.14	219606.61
01-05-1996	216.20	1 1162.70	87233.54	219955.70

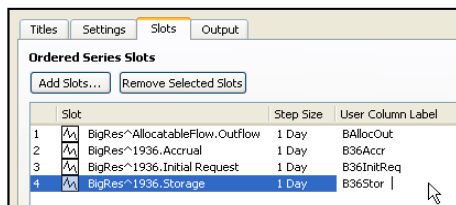
	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft
01-04-1996	216.20	813.61	87247.14	219606.61
01-05-1996	216.20	1 1162.70	87233.54	219955.70

Substitute user column labels for full object/slot names  
(User column labels specified by slot on the Slots tab)

	BigRes^AllocatableFlow.Outflow	BigRes^1936.Accrual	BigRes^1936.Initial Request	BigRes^1936.Storage
01-04-1996	216.20	813.61	87247.14	219606.61

	BAllocOut	B36Accr	B36InitReq	B36Stor
01-04-1996	216.20	813.61	87247.14	219606.61



The image below illustrates the effect of enabling the display of “notes” within the two types of reports (HTML and plain text). In this example, two of the four series slots have notes:

	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft
01-04-1996	216.20	813.61	87247.14	219606.61
01-05-1996	216.20	1162.70	87233.54	219955.70
01-06-1996	216.20	1518.35	86871.39	220311.35
01-07-1996	216.20	1862.28	86522.30	220655.28
01-08-1996	216.20	2173.59	86166.65	220966.59
01-09-1996	216.20	2490.20	85822.72	221283.20
01-10-1996	216.20	3010.39	85511.41	221803.39
01-11-1996	216.20	3498.69	85194.80	222291.69
01-12-1996	216.20	3794.94	84674.61	222587.94
01-13-1996	216.20	4017.78	84186.31	222810.78
01-14-1996	216.20	4389.65	83890.06	223182.65
01-15-1996	216.20	4675.07	83667.22	223468.07
Sum:	2594.38		1026988.13	

Show notes in series as footnotes  
 At Page Breaks  
 At End of Report

### HTML Report

	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft
01-04-1996	216.20	813.61	87247.14	219606.61
01-05-1996	216.20	1162.70	87233.54	219955.70
01-06-1996	216.20	1518.35	86871.39	220311.35
01-07-1996	216.20	1862.28	86522.30	220655.28
01-08-1996	216.20	2173.59	86166.65	220966.59
01-09-1996	216.20	2490.20	85822.72	221283.20
01-10-1996	216.20	3010.39	85511.41	221803.39
01-11-1996	216.20	3498.69	85194.80	222291.69
01-12-1996	216.20	3794.94	84674.61	222587.94
01-13-1996	216.20	4017.78	84186.31	222810.78
01-14-1996	216.20	4389.65	83890.06	223182.65
01-15-1996	216.20	4675.07	83667.22	223468.07
Sum:	2594.38		1026988.13	

[1]: Minimum Requested  
 [2]: Wygillian Request

### Text Report

	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft
01-04-1996	216.20	813.61	87247.14	219606.61
01-05-1996	216.20	1162.70	87233.54	219955.70
01-06-1996	216.20	1518.35	86871.39	220311.35
01-07-1996	216.20	1862.28	86522.30	220655.28
01-08-1996	216.20	2173.59	86166.65	220966.59
01-09-1996	216.20	2490.20	85822.72	221283.20
01-10-1996	216.20	3010.39	85511.41	221803.39
01-11-1996	216.20	3498.69	85194.80	222291.69
01-12-1996	216.20	3794.94	84674.61	222587.94
01-13-1996	216.20	4017.78	84186.31	222810.78
01-14-1996	216.20	4389.65	83890.06	223182.65
01-15-1996	216.20	4675.07	83667.22	223468.07
Sum:	2594.38		1026988.13	

[1] Minimum Requested  
 [2] Wygillian Request

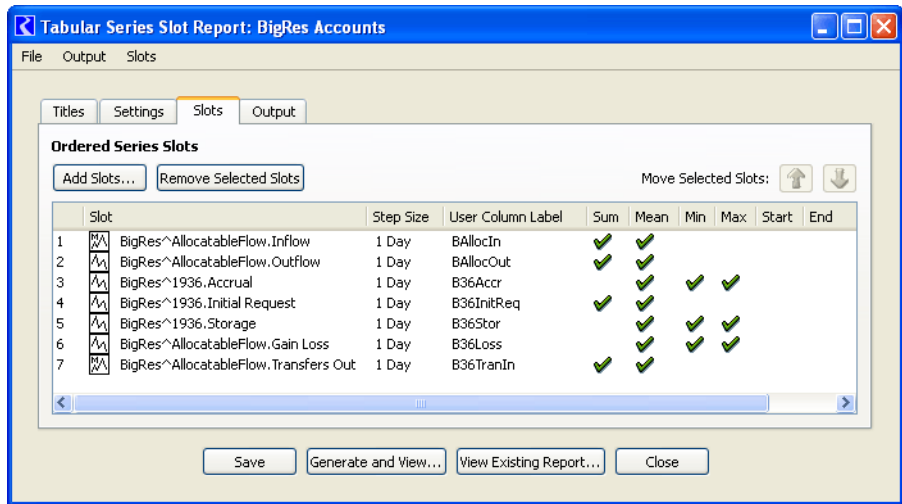
As with various other text components of the report, the font properties (font family, size, color) of the note footnotes are configurable by specifying a CSS (Cascading Style Sheet) style formula. This is described in the Output Tab section, below.

### 3.3 Configuration: Slots Tab

On the Slots Tab, the user defines the ordered list of series slots shown in the report.

Slots can be added to the slot list by picking slots using the RiverWare slot selector. This is accessible in the following ways:

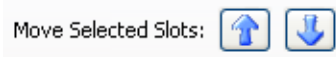
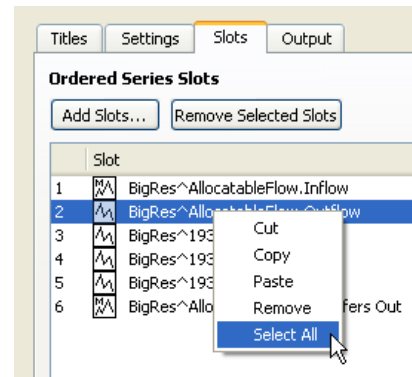
- Clicking the “**Add Slots...**” button.
- Using the “**Slots >> Add Slots...**” menu item.



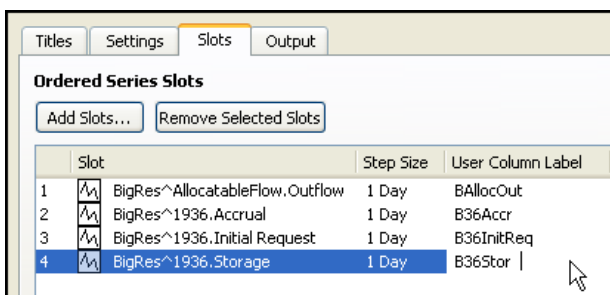
Slots in the “Slot Clipboard” (which were cut or copied from other Slot Lists in RiverWare) can be added to the slot list in these ways:

- Using the “**Slots >> Paste**” menu item.
- Using the “**Paste**” context menu item (by right-clicking within the slot list).

The image to the right shows the context (“right-click”) menu supported within the slot list. The **Cut**, **Copy**, and **Remove** items operate on the full slot item selection. (Multiple slot items can be selected). The **Cut**, **Copy** and **Paste** items interact with the RiverWare Slot Clipboard. These operations are also available in the “Slots” menu.



The selected slot items can be moved up or down in the list using the blue arrow buttons. The arrow buttons are enabled only if the respective move operation is valid. For example, the *up* arrow is disabled if the topmost slot item is selected, or if no items are selected.



Text in the “User Column Label” column is editable by the user. This text is used in the generated report -- in column headers for the respective slot -- if the user indicates on the Settings Tab that they should be used. To start editing a User Column Label for a particular slot, double-click on that cell.

An image in the “Settings Tab” section (above) illustrates where User Column Labels are displayed in the generated report.

If the user turns on any summary rows for any of the slots (by clicking in those cells, to toggle on or off the green check marks), the relevant summary rows are added to the report tables.

These column summary functions are supported. “NaN” values do not contribute to the arithmetic computation. (In particular, they do not effect the Mean computation).

- Sum
- Mean (average)
- Min (minimum value)
- Max (maximum value)
- Start (the top value in the table column)
- End (the bottom value in the table column)

User Column Label	Sum	Mean	Min	Max	Start	End
BAllocIn	✓	✓				
BAllocOut	✓	✓				
B36Accr		✓	✓	✓		
B36InitReq	✓	✓				
B36Stor		✓	✓	✓		
B36TranIn	✓	✓				

The images to the right and below demonstrate the effect of the summary checks in the image above -- for the HTML and plain text reports:

	BAllocIn acre-ft/day	BAllocOut acre-ft/day	B36Accr acre-ft	B36InitReq acre-ft/day	B36Stor acre-ft	B36TranIn acre-ft/day	
01-01-1996	627.55	627.55			218793.00		
01-02-1996	656.05	218.18	437.86	87685.00	219230.86	437.86	
01-03-1996	229.79	216.20	451.46	87685.00	219244.46	13.59	
01-04-1996	578.36	216.20	813.61	87247.14	219606.61	362.16	
01-05-1996	565.29	216.20	1	1162.70	87233.54	219955.70	349.09
01-06-1996	571.84	216.20	1	1518.35	86871.39	220311.35	355.65
01-07-1996	560.13	216.20	1862.28	86522.30	220655.28	343.94	
<b>Sum:</b>	<b>3789.01</b>	<b>1926.73</b>		<b>523244.36</b>		<b>1862.28</b>	
<b>Mean:</b>	<b>541.29</b>	<b>275.25</b>		<b>892.32</b>	<b>87207.39</b>	<b>219685.32</b>	<b>310.38</b>
<b>Min:</b>			0.00		218793.00		
<b>Max:</b>			1862.28		220655.28		

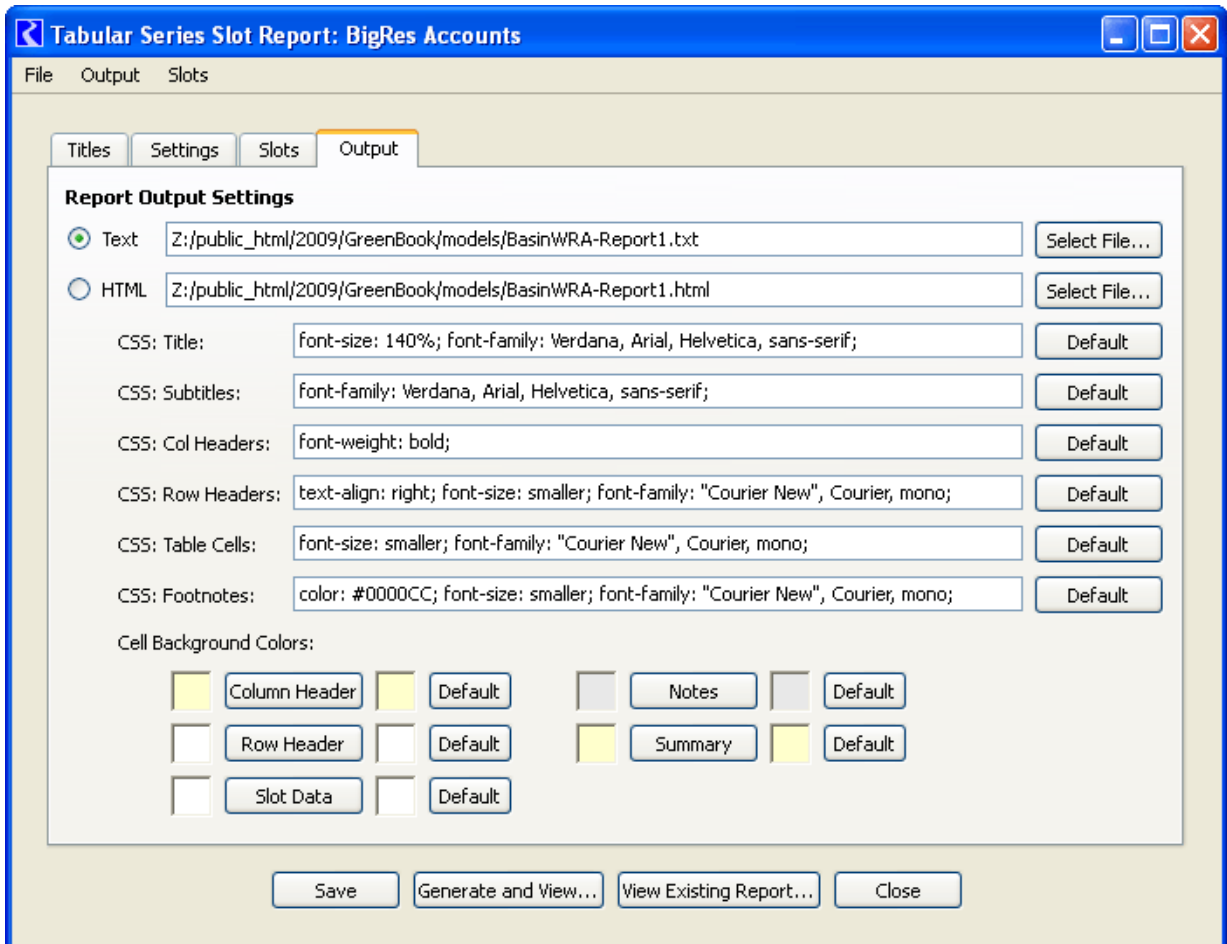
```

+-----+-----+-----+-----+-----+-----+-----+
|         | BAllocIn | BAllocOut | B36Accr | B36InitReq | B36Stor | B36TranIn |
|         | acre-ft/day | acre-ft/day | acre-ft | acre-ft/day | acre-ft | acre-ft/day |
+-----+-----+-----+-----+-----+-----+-----+
| 01-01-1996 | 627.55 | 627.55 | | | 218793.00 | | |
| 01-02-1996 | 656.05 | 218.18 | | 437.86 | 87685.00 | 219230.86 | 437.86 |
| 01-03-1996 | 229.79 | 216.20 | | 451.46 | 87685.00 | 219244.46 | 13.59 |
| 01-04-1996 | 578.36 | 216.20 | | 813.61 | 87247.14 | 219606.61 | 362.16 |
| 01-05-1996 | 565.29 | 216.20 | 1 | 1162.70 | 87233.54 | 219955.70 | 349.09 |
| 01-06-1996 | 571.84 | 216.20 | 1 | 1518.35 | 86871.39 | 220311.35 | 355.65 |
| 01-07-1996 | 560.13 | 216.20 | 1862.28 | 86522.30 | 220655.28 | 343.94 |
+-----+-----+-----+-----+-----+-----+-----+
| Sum: | 3789.01 | 1926.73 | | | 523244.36 | | 1862.28 | |
| Mean: | 541.29 | 275.25 | | | 892.32 | 87207.39 | 219685.32 | 310.38 |
| Min: | | | 0.00 | | | 218793.00 | |
| Max: | | | 1862.28 | | | 220655.28 | |
+-----+-----+-----+-----+-----+-----+-----+

```



### 3.4 Configuration: Output Tab



On the Output Tab, the user provides:

- The file path for the generated **plain text** report file.
- The file path for the generated **HTML** report file.
- The type of file to be generated (plain text or HTML) -- by clicking the desired radio button.
- *For an HTML report file:*
  - CSS style formulas for various types of text appearing in the report -- *described in the next section.*
  - Background Colors for various table cells -- *described in a subsequent section.*

The two file paths can be directly edited (including with use of a context menu which provides a “**paste**” from clipboard operation), or can be picked with a file chooser by clicking the respective “**Select File...**” button.

### 3.4.1 HTML Report CSS Text Styles

The fonts for six different uses of text in the HTML report are configured using “Cascading Style Sheet” (CSS) formulas. This typically includes font “family”, text color, size, bolding / italics, etc.

The following image illustrates the six different configurable text types. The screenshot below (*a detail from the “Output Tab”*) is showing the initially implemented default CSS formulas -- (*these defaults may be different in the RiverWare 5.2 release*). The default formulas can be restored by clicking the respective “Default” button. Hovering the mouse over a “Default” button shows the default CSS formula in a “tooltip” popup.

**HTML Report CSS Text Styles**

BigRes Account Summary Report ← **Title**

Run #37, Policy set #3.  
Non-iterative. ← **Subtitles**

	BAllocIn	BAllocOut		B36Accr	B36InitReq
01-04-1996	578.36	216.20		813.61	87247.14
01-05-1996	565.29	216.20	1	1162.70	87233.54
01-06-1996	571.84	216.20	1	1518.35	86871.39
Sum:	1715.49	648.60			261352.06

← **Col Headers**

← **Table Cells**

[1]: Minimum Requested ← **Footnotes**

← **Row Headers**

CSS: Title:	font-size: 140%; font-family: Verdana, Arial, Helvetica, sans-serif;	Default
CSS: Subtitles:	font-family: Verdana, Arial, Helvetica, sans-serif;	Default
CSS: Col Headers:	font-weight: bold;	Default
CSS: Row Headers:	text-align: right; font-size: smaller; font-family: "Courier New", Courier, mono;	Default
CSS: Table Cells:	font-size: smaller; font-family: "Courier New", Courier, mono;	Default
CSS: Footnotes:	color: #0000CC; font-size: smaller; font-family: "Courier New", Courier, mono;	Default

CSS is an HTML-associated “style sheet” technology standardized by the *World Wide Web Consortium* (See <http://www.w3.org/Style/CSS/>). Many free tools are available which can be used to create CSS style formulas, including most HTML editors. Here is the URL of a free online CSS style formula tool (which was found by Googling “Online CSS editor”):

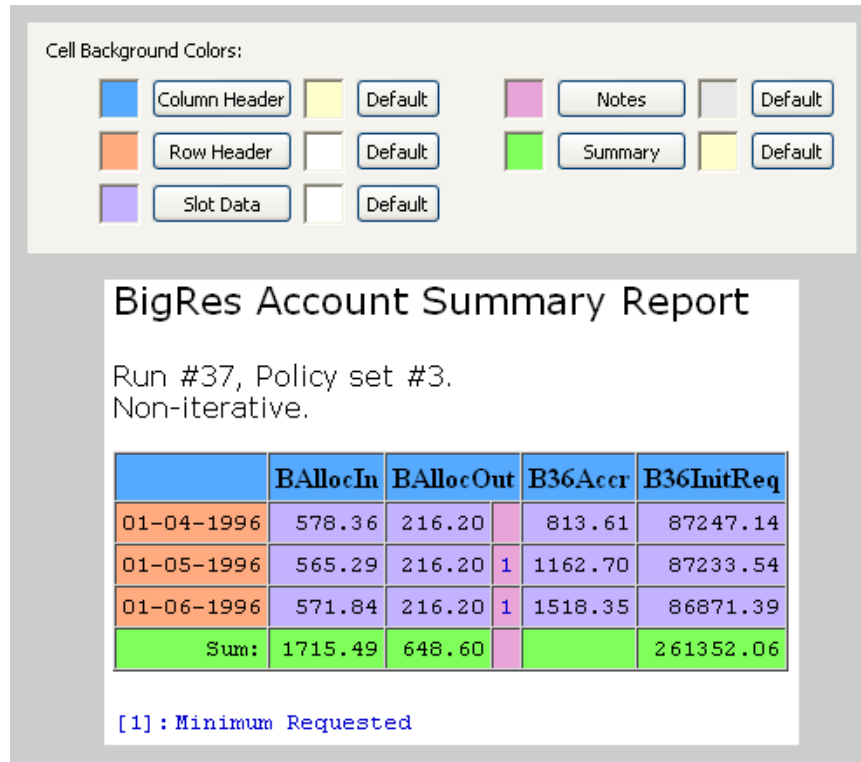
- <http://cssmate.com/csseditor.htm>

Six-character color codes for particular colors (see, for example, the “Footnotes” CSS formula above, “0000CC”) can be computed using the color selection capabilities described in the next section.

### 3.4.2 HTML Report Table Cell Colors

The background color for *five* different types of table cells are configurable by picking them with a color chooser dialog.

The following *color* image illustrates the five different configurable table cell color types.



*Note: This color image is also viewable at this URL:*  
<http://cadswes2.colorado.edu/~philw/2009/TabularSeriesSlotReport/CellColors/>

On the Output Tab (detail shown above), clicking on the titled buttons (e.g. "Column Header") shows a color chooser to pick the respective color. Any color setting can be reverted to the default color by clicking the respective "Default" button.



On the Output Tab, hovering the mouse over a color display window (square) shows the six hexadecimal digit RGB (Red-Green-Blue) color code in a "tooltip" popup window. This is an HTML color encoding convention. Each of the three colors (Red, Green, Blue) has a two hexadecimal digit value from 0 ("00") to 255 ("FF"). Higher numbers are lighter colors; Black is "000000" and White is "FFFFFF".

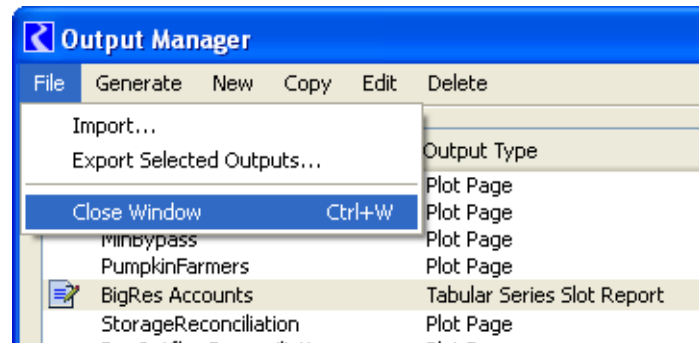
---

## 4.0 Importing and Exporting Tabular Series Slot Report configurations

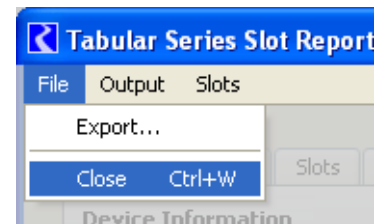
From the Output Manager, Tabular Series Slot Report configurations can be imported or exported (from or to distinct output device files) -- as can any of the RiverWare Output Devices.

This is done with these two menu operations:

- File >> Import...
- File >> Export Selected Outputs...



The Tabular Series Slot Report configuration being viewed and edited in its Output Configuration dialog can be *exported* using the “File >> Export...” menu item.



## 5.0 Generating Tabular Series Slot Reports

A Tabular Series Slot Report, once configured, can be generated -- resulting in the creation of either a plain text file or an HTML file -- in several ways.

From the Output Configuration manager, a Tabular Series Slot Report can be generated in three ways. After selecting the desired report list item ...

- Click the “Generate” button, *or*
- Select the “Generate >> Generate Selected Objects” menu item, *or*
- Select the “Generate Selected Outputs” context (“right-click”) menu item.

Or, from the Output Configuration dialog for a particular Tabular Series Slot Report, the report can be generated in either of these two ways:

- Click the “Generate” button, *or*
- Select the “Output >> Generate/Refresh” menu item.

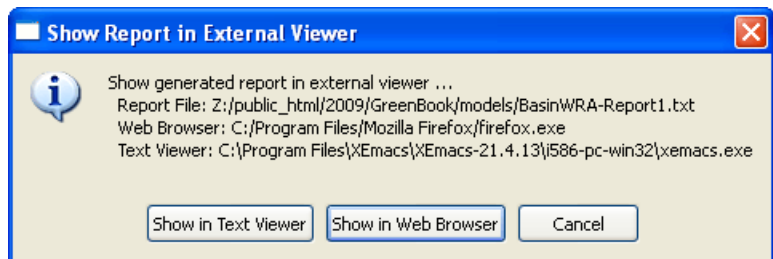
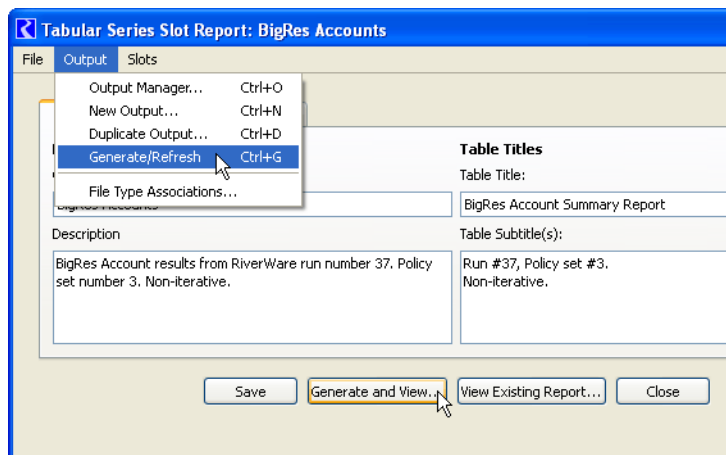
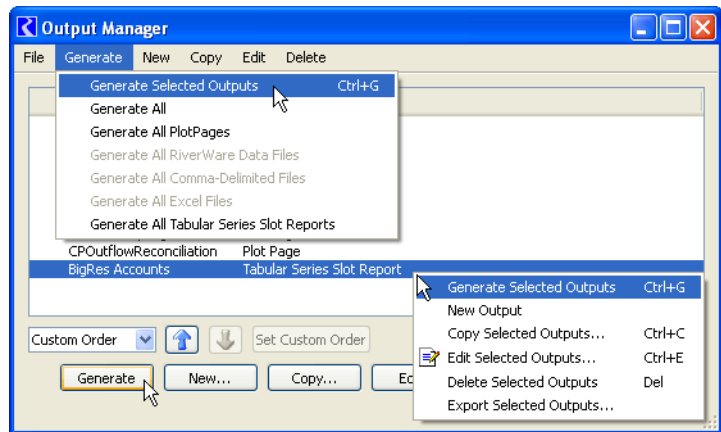
An error dialog will be shown in these two circumstances:

- The configured file path for the selected output type (plain text or HTML) is invalid, or is not writable.
- The slot list is empty.

After the report file is generated ...

- the file path of the generated file is copied to the system clipboard, and
- this dialog box (*see image to the right*) is shown to report that path, and to give the user the option of viewing the report file in an external viewer application -- a program configured using the **File Type Associations manager** (*see next page*).

In the case of a plain text report file, the user is given the option of using *either* the viewer for text files OR the viewer (browser) for HTML files -- if those are distinct. (In the case of an HTML report, only the web browser option is available).



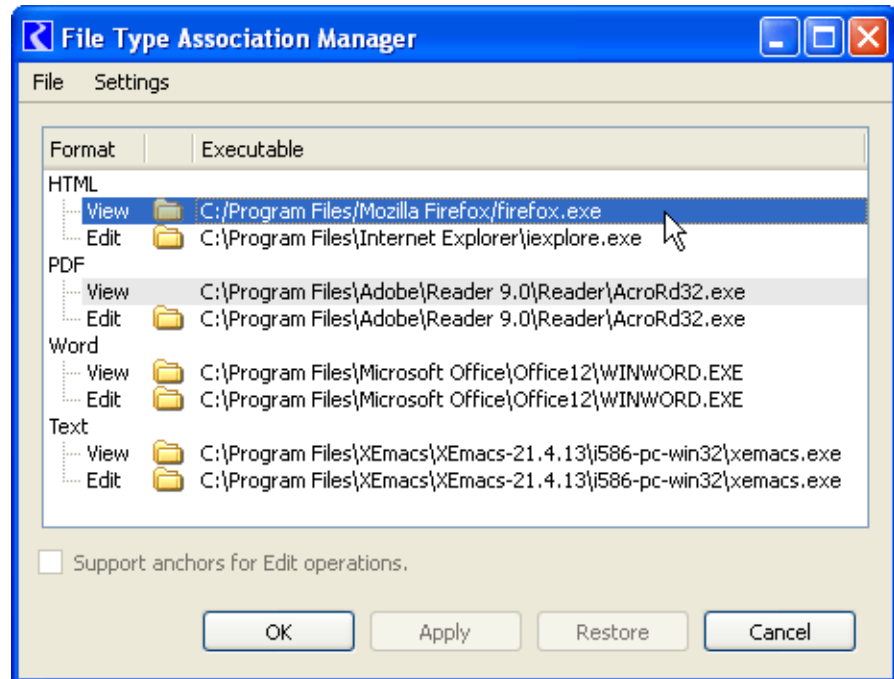
## 5.1 File Type Association Manager

When the user chooses to show a generated report file in an external viewer, an external program is launched for that purpose. The file paths of external programs for viewing (and for editing) files of various types is configured in the File Type Association Manager.

These settings “persist” with the user’s login account -- not with the currently loaded RiverWare model file.

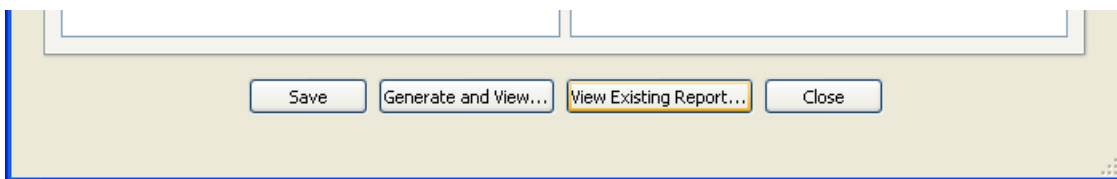
This dialog is accessible from:

- the RiverWare Workspace’s Utilities menu, *and:*
- the Output Config dialog for Tabular Series Slot Reports, using the “Output >> File Type Associations...” menu item.



## 6.0 Viewing an Existing Tabular Series Slot Report

The Output Configuration dialog for Tabular Series Slot Reports has a convenience function for opening an already generated report file (or, technically, any existing text or HTML file).



The “[View Existing Report...](#)” button brings up a file chooser. If the user completes a file selection (for an existing file), then an external viewer program is launched to view that file. Note: The HTML viewer is always used for this operation, even if the file is a plain text file.

--- (end) ---