II. RiverWare Software Maintenance

**Code Refactoring**

The Slope Power Reservoir slope storage calculation was refactored for improved maintenance, readability, and understanding.

**Releases, Patches and Snapshots**

RiverWare 7.0.7 Release

RiverWare Patch 7.0.7 was released on May 11, 2017. Release notes are as follows:

Summary of Changes in RiverWare Patch Release 7.0.7

Slope Power Reservoir Interpolation

The Slope Power Reservoir was improved to not issue table interpolation errors during intermediate calculations. This change affects iterative algorithms including max outflow computations and RPL functions like SolveSlopeStorageGivenInflowHW, SolveSlopeStorageGivenInflowOutflow and TargetSlopeHWGivenInflow.

Bug Fixes

The following issues were addressed:

* 5874: In Scripts, the minimum value for a scalar slot editor slider was not shown.
* 5896: In the RPL Set Comparison tool, the RPL Sets to Compare dialog opened too wide.
* 5901: In plotting, Marker labels did not display unless a line style was selected.
* 5925: Charts could open too large and resizing made them disappear.
* 5930: Optimization failed for certain reasonable policies.
* 5933: A crash could occur when evaluating expression slots that called invalid functions.
* 5939: The Script Editor retained changes after a cancel.
* 5945: RPL Comments with multiple paragraphs were not wrapping correctly.
* 5946: Certain RPL functions on the slope reservoir could incorrectly set slots.
* 5947: The RPL function GetMinSpillGivenInflowRel could calculate incorrect spill values when Unregulated Flow 2 and 3 are used.
* 5948: RPL comments were still modified even after a cancel.
* 5950: A crash could occur when copying/pasting a RPL statement.
* 5951: A crash could occur when deleting a RPL statement after showing statements in the set editor.
* 5952: A crash on model close or model load could occur when a geospatial image is used.
* 5957: A crash could occur when RiverWare exits after certain RPL editing operations.
* 5958: Creating an SCT for Integer Indexed Slots did not always work.
* 5959: On the power reservoir, the Plant Power Table With Units lookup was improved to not error in certain cases.
* 5961: Within the Soil Moisture methods on the Water User object, negative Soil Moisture could be computed. This led to a failure in water quality salinity methods.

**Software Updates, Bug fixes (not associated with new development)**

Bug Fixes:

* Bug 5959: On the power reservoir, the Plant Power Table With Units lookup was improved to not error in certain cases. (Neumann)
* Bug 5961: Within the Soil Moisture methods on the Water User object, negative Soil Moisture could be computed. This led to a failure in water quality salinity methods. (Neumann)
* Bug 5947: The RPL function GetMinSpillGivenInflowRel could calculate incorrect spill values when Unregulated Flow 2 and 3 are used. (Neumann)

**Regression Tests**

The regression tests continue to be maintained on a daily basis. This involves updating the regression tests to exercise new developments in the code. Also, as new code is added to the development area, the model comparisons performed in the nightly regression tests usually show differences (for example, because a new method category may have been added). When this occurs, the regression tests need to be updated to reflect the current state of the development area so model comparisons do not fail. In addition, every week, the daily history of each regression test is analyzed to determine if the run time or model size has significantly changed because of new development.