
Unit Scheme Testing Plan

Last Modified: Feb 6, 2012

Each section roughly corresponds to a section of the online help. It represents a general area that must be tested in terms of the new Unit Schemes. Some sections have specific things to test, others have just a general approach. Each section is assigned to someone to test.

1. Accounting

WHO: David

- Are units in the Edit Account, Open Account, and Open Slot correct?
- Is it easy to start a new accounting model?
- Is it easy to switch unit schemes for accounts?
- Do alternate units behave as expected?
- Water Rights Solver - does it work?
- Does the series sharing work correctly?
- Any issues with auto creating supplies?
- Look into URGWOM OLAM and document limitations
- Object Account Summary - Does it use scheme units for sum?
- Exchange units - Where do they come from?
- Data Object Exchange - Does it create slots correctly?
- Water Rights allocation - ???- Not much to test as long as reg tests pass.

2. Batch Mode

WHO: Bill / Mitch

- Is there a RCL command to change the unit scheme and does it work? If not, do we need one?
- Do output devices and diagnostics get the correct units?
- Does GetSlot and SetSlot use the scheme units?

3. Data Management Interface

3.1 Database DMI

- Does display in Dataset show scheme units or something else? What should it show?

3.1.1 HDB

WHO: Neil

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (Use Database Units, Prefer Database Units, or Use Dataset Units.)

3.1.2 DSS**WHO: David**

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.1.3 Excel**WHO: Neil**

- Does the DMI deal with units correctly?
- Check the “Use Unit Name with the Slot Name” config
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.2 Control File Executable**WHO: Bill**

- Does it bring in the “correct” units if the units are not specified in the Data File? Does it use correct units if they are specified? Does it work correctly on Output DMI?
- What happens with set_units, set_scale, display_precision, and display_format?
- What about setting units on periodic slots

4. Diagnostics**WHO: David**

- Are diagnostics output in the correct scheme units?
- RPL function diagnostics, do we still want to give them control in the RPL interface?
Probably not, we should just use scheme units
- Do print statements provide correct units?

5. Model Building**WHO: Mitch**

Testing should include:

Create a small test model by going through the model building steps (1 reservoir exercise for CVEN class) and update the exercise

- Is it easy to define scheme units?
- Any issues?

6. Model Files

WHO: Patrick

- Are schemes saved and re-loaded correctly?
- Is the model data saved correctly and re-loaded?
- Check that compression (.gz) works as before?

7. Model Run Analysis

WHO: David

- Check the Special Results tab (USACE) and make sure it is working as expected with changing schemes.

8. Multiple Run Management

8.1 Concurrent

WHO: Bill (with Study Mgr)

- There is not too much to test on the interface.
- Are results still correct, especially in the RDF and excel output?
- Are Distributed Runs OK?

8.2 Iterative

WHO: David

- Are integer indexed (agg) slot correct?
- Are results correct?

9. Study Manager

WHO: Bill

- What needs to be tested?
- Hypothetically, could Mexico run a Co Riv study with a different scheme and get the correct results?

10. Objects

WHO: David / Mitch

- Identify places where user units matter, search code for getUsrUnits

- Run user models and check results with different schemes.

11. Object User Interface

WHO: David / Mitch

- Check values shown on Open Object dialog.
- What happens with export object, change scheme, and re-import. Does it give correct values?

12. Optimization

WHO: Tim / Mitch

- Are results different with an alternate scheme?
- Are diagnostics and log files using scheme units?
- ???

13. Output and Plotting

13.1 Output Files (text, RDF, comma)

WHO: David

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.2 Snapshots

WHO: David

- Are values correct?
- Do snapshot slots change with scheme changes?

13.3 Model Reports

WHO: Patrick

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.4 Tabular Series Slots

WHO: Phil

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.5 Plotting and Pie Charts

WHO: Neil (and David)

- Are values in the data files correct?
- Can you produce different vales by changing the scheme?
- Do saved plots correctly re-generate?

13.6 Excel Generation

WHO: Neil

- Are values in the data files correct?
-

14. Performance

WHO: Patrick

- Are regression tests slower?
 - Are user's big models slower? Test with no exceptions and with lots of exceptions.
-

15. RPL Data Types and Palette

WHO: Patrick

- Is there any issue entering RPL numeric values?
 - Is RPL precision still respected?
-

16. RPL Debugging Tools

WHO: Patrick

- Does the Debugger use the scheme units when displaying values? Is it always unit type rules or does it sometimes use exceptions?
-

17. RPL Predefined Functions

WHO: David / Patrick

- Reg tests should exercise functionality of each function. Do they?
 - Are the hypothetical simulation functions working for an alternative scheme?
-

18. RPL User Interface

WHO: David / Patrick

- What about function diagnostic units? See diagnostics...
 - RPL printing and formatting: What happens to NUMERIC values when they print?
-

- RPL external documentation: What happens to values in the description when template is generated?

19. Scenario Management

WHO: Phil

- Can a scenario user change the scheme?
- If so, do all the checks and plotting work?
- Does the new playbox work as expected?

20. SCT

WHO: Phil

- What happens when you change scheme?
- Does the SCT update if units are shown? Does it give indication if they are not shown?
- Does the aggregation configuration still work?
- What about the Object Grid and Scalar slots tab? Show Units toggle?
- Do Adjust Values and Interpolation still work correctly?
- Copy / Paste still work?
- Export data?

21. Selector Dialogs

WHO: Phil

- Does the Unit Type filter still work?
- Are values displayed for scalars in the selector?

22. Slots

WHO: David and Patrick

22.1 Global Slot Config

- Does new global slot config work as expected? Is it clear?
- Can you get to a scheme from it?

22.2 Slot Dialogs

- Does import/export of values work as expected?
- Do slot config dialogs work as expected? Are the intuitive as to what they are changing?
Each one needs to be exercised.

- Does (non) conversion of values work?
- Does Fill Below, Adjust Values, and Interpolate work?
- When you add a slot to a data object, is it clear/easy how to change unit type?
- What happens when you have compression enabled, and you change the scheme? Does it re-compress?
- What happens when you have a statistical table slot, mass balance slot, or time aggregation slot and you change the scheme?
- Do DateTime values in slots work? Is it easy to configure?
- Do Mass Balance Summary slots use the scheme units?
- Do notes on series slots still behave as expected?

23. Subbasins

WHO: David

23.1 Check Computational subbasins and propagate values functionality

24. Units

WHO: Patrick / David

- Is the Scheme editor easy to use?
- Does it work as expected?
- Can we read in old riverwareDB files?
- Are all other uses of the riverware DB files removed in the interface and documentation?

25. USACE-SWD Methods

WHO: David

- Does the yield study still work?
- Are flood control and other USACE methods producing the same results?

26. Water Quality

WHO: David

- Do we get same WQ results with different scheme?

27. **Workspace**

WHO: Patrick

- Does the geospatial view do anything when you change schemes. If you have a new Length unit, does it change coordinate units?
- Are units shown in the dialog taken from the scheme?

Unit Scheme Testing Plan

Last Modified: Feb 6, 2012

Each section roughly corresponds to a section of the online help. It represents a general area that must be tested in terms of the new Unit Schemes. Some sections have specific things to test, others have just a general approach. Each section is assigned to someone to test.

1. Accounting

WHO: David

- Are units in the Edit Account, Open Account, and Open Slot correct?
- Is it easy to start a new accounting model?
- Is it easy to switch unit schemes for accounts?
- Do alternate units behave as expected?
- Water Rights Solver - does it work?
- Does the series sharing work correctly?
- Any issues with auto creating supplies?
- Look into URGWOM OLAM and document limitations
- Object Account Summary - Does it use scheme units for sum?
- Exchange units - Where do they come from?
- Data Object Exchange - Does it create slots correctly?
- Water Rights allocation - ???- Not much to test as long as reg tests pass.

2. Batch Mode

WHO: Bill / Mitch

- Is there a RCL command to change the unit scheme and does it work? If not, do we need one?
- Do output devices and diagnostics get the correct units?
- Does GetSlot and SetSlot use the scheme units?

3. Data Management Interface

3.1 Database DMI

- Does display in Dataset show scheme units or something else? What should it show?

3.1.1 HDB

WHO: Neil

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (Use Database Units, Prefer Database Units, or Use Dataset Units.)

3.1.2 DSS**WHO: David**

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.1.3 Excel**WHO: Neil**

- Does the DMI deal with units correctly?
- Check the “Use Unit Name with the Slot Name” config
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.2 Control File Executable**WHO: Bill**

- Does it bring in the “correct” units if the units are not specified in the Data File? Does it use correct units if they are specified? Does it work correctly on Output DMI?
- What happens with set_units, set_scale, display_precision, and display_format?
- What about setting units on periodic slots

4. Diagnostics**WHO: David**

- Are diagnostics output in the correct scheme units?
- RPL function diagnostics, do we still want to give them control in the RPL interface?
Probably not, we should just use scheme units
- Do print statements provide correct units?

5. Model Building**WHO: Mitch**

Testing should include:

Create a small test model by going through the model building steps (1 reservoir exercise for CVEN class) and update the exercise

- Is it easy to define scheme units?
- Any issues?

6. Model Files

WHO: Patrick

- Are schemes saved and re-loaded correctly?
- Is the model data saved correctly and re-loaded?
- Check that compression (.gz) works as before?

7. Model Run Analysis

WHO: David

- Check the Special Results tab (USACE) and make sure it is working as expected with changing schemes.

8. Multiple Run Management

8.1 Concurrent

WHO: Bill (with Study Mgr)

- There is not too much to test on the interface.
- Are results still correct, especially in the RDF and excel output?
- Are Distributed Runs OK?

8.2 Iterative

WHO: David

- Are integer indexed (agg) slot correct?
- Are results correct?

9. Study Manager

WHO: Bill

- What needs to be tested?
- Hypothetically, could Mexico run a Co Riv study with a different scheme and get the correct results?

10. Objects

WHO: David / Mitch

- Identify places where user units matter, search code for getUsrUnits

- Run user models and check results with different schemes.

11. Object User Interface

WHO: David / Mitch

- Check values shown on Open Object dialog.
- What happens with export object, change scheme, and re-import. Does it give correct values?

12. Optimization

WHO: Tim / Mitch

- Are results different with an alternate scheme?
- Are diagnostics and log files using scheme units?
- ???

13. Output and Plotting

13.1 Output Files (text, RDF, comma)

WHO: David

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.2 Snapshots

WHO: David

- Are values correct?
- Do snapshot slots change with scheme changes?

13.3 Model Reports

WHO: Patrick

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.4 Tabular Series Slots

WHO: Phil

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.5 Plotting and Pie Charts

WHO: Neil (and David)

- Are values in the data files correct?
- Can you produce different vales by changing the scheme?
- Do saved plots correctly re-generate?

13.6 Excel Generation

WHO: Neil

- Are values in the data files correct?
-

14. Performance

WHO: Patrick

- Are regression tests slower?
 - Are user's big models slower? Test with no exceptions and with lots of exceptions.
-

15. RPL Data Types and Palette

WHO: Patrick

- Is there any issue entering RPL numeric values?
 - Is RPL precision still respected?
-

16. RPL Debugging Tools

WHO: Patrick

- Does the Debugger use the scheme units when displaying values? Is it always unit type rules or does it sometimes use exceptions?
-

17. RPL Predefined Functions

WHO: David / Patrick

- Reg tests should exercise functionality of each function. Do they?
 - Are the hypothetical simulation functions working for an alternative scheme?
-

18. RPL User Interface

WHO: David / Patrick

- What about function diagnostic units? See diagnostics...
 - RPL printing and formatting: What happens to NUMERIC values when they print?
-

- RPL external documentation: What happens to values in the description when template is generated?

19. Scenario Management

WHO: Phil

- Can a scenario user change the scheme?
- If so, do all the checks and plotting work?
- Does the new playbox work as expected?

20. SCT

WHO: Phil

- What happens when you change scheme?
- Does the SCT update if units are shown? Does it give indication if they are not shown?
- Does the aggregation configuration still work?
- What about the Object Grid and Scalar slots tab? Show Units toggle?
- Do Adjust Values and Interpolation still work correctly?
- Copy / Paste still work?
- Export data?

21. Selector Dialogs

WHO: Phil

- Does the Unit Type filter still work?
- Are values displayed for scalars in the selector?

22. Slots

WHO: David and Patrick

22.1 Global Slot Config

- Does new global slot config work as expected? Is it clear?
- Can you get to a scheme from it?

22.2 Slot Dialogs

- Does import/export of values work as expected?
- Do slot config dialogs work as expected? Are the intuitive as to what they are changing?
Each one needs to be exercised.

- Does (non) conversion of values work?
- Does Fill Below, Adjust Values, and Interpolate work?
- When you add a slot to a data object, is it clear/easy how to change unit type?
- What happens when you have compression enabled, and you change the scheme? Does it re-compress?
- What happens when you have a statistical table slot, mass balance slot, or time aggregation slot and you change the scheme?
- Do DateTime values in slots work? Is it easy to configure?
- Do Mass Balance Summary slots use the scheme units?
- Do notes on series slots still behave as expected?

23. Subbasins

WHO: David

23.1 Check Computational subbasins and propagate values functionality

24. Units

WHO: Patrick / David

- Is the Scheme editor easy to use?
- Does it work as expected?
- Can we read in old riverwareDB files?
- Are all other uses of the riverware DB files removed in the interface and documentation?

25. USACE-SWD Methods

WHO: David

- Does the yield study still work?
- Are flood control and other USACE methods producing the same results?

26. Water Quality

WHO: David

- Do we get same WQ results with different scheme?

27. **Workspace**

WHO: Patrick

- Does the geospatial view do anything when you change schemes. If you have a new Length unit, does it change coordinate units?
- Are units shown in the dialog taken from the scheme?

Unit Scheme Testing Plan

Last Modified: Feb 6, 2012

Each section roughly corresponds to a section of the online help. It represents a general area that must be tested in terms of the new Unit Schemes. Some sections have specific things to test, others have just a general approach. Each section is assigned to someone to test.

1. Accounting

WHO: David

- Are units in the Edit Account, Open Account, and Open Slot correct?
- Is it easy to start a new accounting model?
- Is it easy to switch unit schemes for accounts?
- Do alternate units behave as expected?
- Water Rights Solver - does it work?
- Does the series sharing work correctly?
- Any issues with auto creating supplies?
- Look into URGWOM OLAM and document limitations
- Object Account Summary - Does it use scheme units for sum?
- Exchange units - Where do they come from?
- Data Object Exchange - Does it create slots correctly?
- Water Rights allocation - ???- Not much to test as long as reg tests pass.

2. Batch Mode

WHO: Bill / Mitch

- Is there a RCL command to change the unit scheme and does it work? If not, do we need one?
- Do output devices and diagnostics get the correct units?
- Does GetSlot and SetSlot use the scheme units?

3. Data Management Interface

3.1 Database DMI

- Does display in Dataset show scheme units or something else? What should it show?

3.1.1 HDB

WHO: Neil

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (Use Database Units, Prefer Database Units, or Use Dataset Units.)

3.1.2 DSS**WHO: David**

- Does the DMI deal with units correctly?
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.1.3 Excel**WHO: Neil**

- Does the DMI deal with units correctly?
- Check the “Use Unit Name with the Slot Name” config
- Check each condition in the Dataset config (use Dateset Units, Use Database Units, ...)

3.2 Control File Executable**WHO: Bill**

- Does it bring in the “correct” units if the units are not specified in the Data File? Does it use correct units if they are specified? Does it work correctly on Output DMI?
- What happens with set_units, set_scale, display_precision, and display_format?
- What about setting units on periodic slots

4. Diagnostics**WHO: David**

- Are diagnostics output in the correct scheme units?
- RPL function diagnostics, do we still want to give them control in the RPL interface?
Probably not, we should just use scheme units
- Do print statements provide correct units?

5. Model Building**WHO: Mitch**

Testing should include:

Create a small test model by going through the model building steps (1 reservoir exercise for CVEN class) and update the exercise

- Is it easy to define scheme units?
- Any issues?

6. Model Files

WHO: Patrick

- Are schemes saved and re-loaded correctly?
- Is the model data saved correctly and re-loaded?
- Check that compression (.gz) works as before?

7. Model Run Analysis

WHO: David

- Check the Special Results tab (USACE) and make sure it is working as expected with changing schemes.

8. Multiple Run Management

8.1 Concurrent

WHO: Bill (with Study Mgr)

- There is not too much to test on the interface.
- Are results still correct, especially in the RDF and excel output?
- Are Distributed Runs OK?

8.2 Iterative

WHO: David

- Are integer indexed (agg) slot correct?
- Are results correct?

9. Study Manager

WHO: Bill

- What needs to be tested?
- Hypothetically, could Mexico run a Co Riv study with a different scheme and get the correct results?

10. Objects

WHO: David / Mitch

- Identify places where user units matter, search code for getUsrUnits

- Run user models and check results with different schemes.

11. Object User Interface

WHO: David / Mitch

- Check values shown on Open Object dialog.
- What happens with export object, change scheme, and re-import. Does it give correct values?

12. Optimization

WHO: Tim / Mitch

- Are results different with an alternate scheme?
- Are diagnostics and log files using scheme units?
- ???

13. Output and Plotting

13.1 Output Files (text, RDF, comma)

WHO: David

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.2 Snapshots

WHO: David

- Are values correct?
- Do snapshot slots change with scheme changes?

13.3 Model Reports

WHO: Patrick

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.4 Tabular Series Slots

WHO: Phil

- Are values in the data files correct?
- Can you produce different values by changing the scheme?

13.5 Plotting and Pie Charts

WHO: Neil (and David)

- Are values in the data files correct?
- Can you produce different vales by changing the scheme?
- Do saved plots correctly re-generate?

13.6 Excel Generation

WHO: Neil

- Are values in the data files correct?
-

14. Performance

WHO: Patrick

- Are regression tests slower?
 - Are user's big models slower? Test with no exceptions and with lots of exceptions.
-

15. RPL Data Types and Palette

WHO: Patrick

- Is there any issue entering RPL numeric values?
 - Is RPL precision still respected?
-

16. RPL Debugging Tools

WHO: Patrick

- Does the Debugger use the scheme units when displaying values? Is it always unit type rules or does it sometimes use exceptions?
-

17. RPL Predefined Functions

WHO: David / Patrick

- Reg tests should exercise functionality of each function. Do they?
 - Are the hypothetical simulation functions working for an alternative scheme?
-

18. RPL User Interface

WHO: David / Patrick

- What about function diagnostic units? See diagnostics...
 - RPL printing and formatting: What happens to NUMERIC values when they print?
-

- RPL external documentation: What happens to values in the description when template is generated?

19. Scenario Management

WHO: Phil

- Can a scenario user change the scheme?
- If so, do all the checks and plotting work?
- Does the new playbox work as expected?

20. SCT

WHO: Phil

- What happens when you change scheme?
- Does the SCT update if units are shown? Does it give indication if they are not shown?
- Does the aggregation configuration still work?
- What about the Object Grid and Scalar slots tab? Show Units toggle?
- Do Adjust Values and Interpolation still work correctly?
- Copy / Paste still work?
- Export data?

21. Selector Dialogs

WHO: Phil

- Does the Unit Type filter still work?
- Are values displayed for scalars in the selector?

22. Slots

WHO: David and Patrick

22.1 Global Slot Config

- Does new global slot config work as expected? Is it clear?
- Can you get to a scheme from it?

22.2 Slot Dialogs

- Does import/export of values work as expected?
- Do slot config dialogs work as expected? Are the intuitive as to what they are changing?
Each one needs to be exercised.

- Does (non) conversion of values work?
- Does Fill Below, Adjust Values, and Interpolate work?
- When you add a slot to a data object, is it clear/easy how to change unit type?
- What happens when you have compression enabled, and you change the scheme? Does it re-compress?
- What happens when you have a statistical table slot, mass balance slot, or time aggregation slot and you change the scheme?
- Do DateTime values in slots work? Is it easy to configure?
- Do Mass Balance Summary slots use the scheme units?
- Do notes on series slots still behave as expected?

23. Subbasins

WHO: David

23.1 Check Computational subbasins and propagate values functionality

24. Units

WHO: Patrick / David

- Is the Scheme editor easy to use?
- Does it work as expected?
- Can we read in old riverwareDB files?
- Are all other uses of the riverware DB files removed in the interface and documentation?

25. USACE-SWD Methods

WHO: David

- Does the yield study still work?
- Are flood control and other USACE methods producing the same results?

26. Water Quality

WHO: David

- Do we get same WQ results with different scheme?

27. Workspace

WHO: Patrick

- Does the geospatial view do anything when you change schemes. If you have a new Length unit, does it change coordinate units?
- Are units shown in the dialog taken from the scheme?