3. RiverWare Water Accounting

Budget Summary:

| Task | Contract | FY10 Funding | Prev Yr funds Carried forward to FY10 | FY10 Expenditures | Carry Forward to FY11 | Projected FY11 Budget |
|---|---------------------|-----------------|--|----------------------|-----------------------------|-----------------------------|
| Diversion Account Enhancements | BOR UC RW Mod 11 | | \$35,000 | \$35,000 | | |
| OLAM Selectable Execution Time | BOR ABQ | | 15,000 | 15,000 | | |
| | | | | | | |
| Further reduce size of accounts | BOR-ABQ | 10,000 | | | 10,000 | |
| Time-varying gain/loss for passthrough accts | COE-ABQ | 20,000 | | | 20,000 | |
| User configurable default supply names | COE-ABQ | 13,000 | | | 13,000 | |
| | | | | | | |
| TOTAL | | 43,000 | 50,000 | 50,000 | 43,000 | |

FY 2010 Accomplishments Highlights:

Diversion Account Enhancements

Coding was completed in December for the task to enhance Diversion Account. As described in last month's report, a new return flow method called Variable Efficiency Return Flow was added. In addition, a new method category called Return Flow Route or Split was added and the current timestep lagging of return flow values was moved into a Simple Lag method in the new category. A new Split and Route method was added to this category that allows the user to specify how return flow will be split among multiple return flow supplies and to specify lag coefficients for each supply that are used in calculating the impulse response return flow values. The Return Flow slot with the Simple Lag method is a series slot capable of linking to one supply while the Returned Flows slot with Split and Route is a multi slot capable of linking to multiple supplies. Thus switching methods in the Split and Route category can a impact the linked supplies. Code was added so that when the user changes this method selection in the open account dialog, existing supplies can be automatically moved or deleted upon confirmation by the user. The new functionality for Diversion Account was tested and RiverWare help was updated to reflect the changes

Edit Account Dialog: Special behavior for AggSeries Slots

With the addition of an AggSeries Slot to Accounts for the first time (Prerouted Return Flows to Diversion Accounts), special handling for AggSeries Slots in the Edit Account Dialog is now desirable—similar to the handling of Account MultiSlots having at least one SubSlot. Such Slots are "Read-Only" (indicated with a gray crosshatch), and double-clicking in a cell opens the Slot Dialog for that AggSeriesSlot or MultiSlot (instead of starting an in-cell edit).

Account Selection Enhancement (minor): Account Type Icons

The GUS ("Grand Unified Selector") Accounting Selection Panel was enhanced by adding account type icons to the four account type filter checkboxes. This functions as a User Key for the Account Type icons in the account list in the panel.

Object Level Accounting Method Execution Time

This work is to allow OLAMs to execute at different times relative to simulation during the run and to add a new precompiled OLAM that makes use of a new execution time. The major tasks were:

- Modify the accounting controller to execute OLAMs at beginning of run, once at beginning of timestep, beginning of timestep and as dependencies change, or after simulation and as dependencies change and allow the user to select the execution time for each instance of an OLAM on a per object basis via the open object dialog.
- Create a new OLAM called "Copy Slot to Slot Inflow" that copies the value from the physical "local inflow" type slot on an object to the Slot Inflow slot of a designated target account on the object.
- Extend the Multi-Object Selector dialog to allow selection of OLAM execution times across multiple objects and to allow specification of the target account for "Copy Slot to Slot Inflow" across multiple objects by either account name or by water type.

The work also included:

- The water rights solver was changed to not default the slot inflows to zero since this can now be done with an OLAM.
- The Instream Flow Reference Level category was changed from an OLAM to a normal category; the Slot Inflow category and Zero Slot Inflows method were added to the Diversion Objec; the category names for OLAMs involving Slot Inflow, Gain Loss, and Reconciliation were changed on twelve different simulation object classes to be more consistent and descriptive.
- The functionality was implemented to allow OLAMs to re-execute under the simulation or rule-based simulation controllers when physical slots upon which they depend are changed. Initially this was implemented by calling accounting controller methods from the other controllers, but in rule-based simulation this resulted in slots assigned by the OLAM getting the rule flag and priority instead of the usual "m" flag for OLAMs.
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FY 2010 Goals:

- Further reduce size of accounts
- Variable gain/loss on pass-through accounts
- User-configurable default supply names