Notes on adding BO code for Clear Creek spring attraction flows (NMFS Action 1.1.1) and Lower American River Flow Management (NMFS Action 2.1) to the model entitled CalLite\_BO\_100610. Dan Easton had already added code for American River FMS to this study, but I made changes to this as described in section on American River RPA.

**Clear Creek RPA:**

* Edited clear\_ck\_min.wresl. Edited this to read in RPA and pre-RPA flow requirements, select which standard to use based on a switch from options.table, and apply min flow. I did a check and adding the switch did not change C\_Wkytn\_MIF at all, the flow was always the same under the RPA requirement.
* Added Clear\_ck\_min\_RPA.table. This is same as the Clear\_ck\_min.table, but since the RPA flow requirement is 600 cfs for 3 days twice in May and June, added 116 cfs to min flow requirements for May. Calsim modeling document says that all 6 days should be added in May, so I did it this way. Per Derek Hilts, the reason why all the flow is added in May is that this is the month when the pulses will most likely be implemented.
* Edited options.table to add option for Clear Creek RPA.

**American River RPA (FMS for Lower American):**

* Edited FMStandard.wresl. I made numerous changes in this file, to correct problems in the code that I found while reviewing the Calsim implementation, and improve the comments. The impacts of these changes on Nimbus flows are pretty minor. C\_Nimbus\_MIF increases by 1-3% from Mar-Oct on average. C\_Nimbus changes a little on average (3% max) in some months, but on an annual average basis there is no change.
* Deleted table AmerRiv\_DelEst.table, which was used by earlier FMStandard.wresl code but now is no longer needed.
* Deleted FMPInput.wresl, this file just read in a couple timeseries so I put this code in FMStandard.wresl.
* Deleted NimbusHistMinQ.wresl and HSt\_base.wresl, since these duplicate code in Americanmin.wresl.
* Changed include statements in NOD.wresl to include Americanmin.wresl and remove include statements for files that were deleted above.
* Edited Americanmin.wresl to comment out code implementing pre-FMS Nimbus flow standard. We will be using FMS standard for both pre-BO and BO implementations of CalLite, so this code is not needed.
* In CS2CL model, edited BO\_TS.wresl to define a timeseries called Evap\_Folsm. This is = E8 from Calsim, and is needed for forecasting future storages in FMStandard.wresl.