Ideas on Modeling/ Analytical Needs
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1) Changes in the Model
   a) Include explicit account of CVP and SWP operations
      i) COA
      ii) Separate export, storage accounts in export area. Need some policy on whether CVP can borrow SWP storage if needed to support b(2) spring cuts.
      iii) Pull out JPOD from baseline runs.
   b) Shift from trying to meet DWRSIM deliveries to trying to meet assume DWRSIM demands? (Current approach never allows daily model to deliver more than DWRSIM – this is a real problem for scenarios such as 1b in which supplies are more abundant than in WQCP)
   c) Don't allow diversions into Delta storage during periods when b(2) limitations are in effect.
2) Rerun D 1485 and WQCP with new version of daily model 1981 – 1995
   a) Calculate SWP, CVP, and total impacts.
      i) For purposes of calculating the CVP share of WQCP impacts, need to treat each year separately and to fix storage levels at the beginning of each year (in the WQCP run) at the same levels as the D 1485 storage levels for that year. Otherwise, result will be contaminated by differential impacts on storage levels. I don't think that we fixed storage levels in this way during the initial runs.
      ii) Rerun model with WQCP standards without fixing initial storage. This then becomes the baseline run for future games.
3) Account for remaining differences between DWRSIM and Daily Model.
   a) Must include not only deliveries made, but changes in storage in SLR and upstream.
4) Develop methodology for converting supply changes during 1981 – 1995 period in the daily model into DWRSIM metric (Average and dry period deliveries over 73 year period).
5) Convert WQCP impacts into DWRSIM metric.
6) Develop algorithm to estimate SLR salinity.
7) Rerun Scenarios 1a and 1b for entire period 1981 – 1995.
   a) Use updated daily model and updated estimate of Federal WQCP costs.
   b) Include extra Stanislaus b(2) costs (if any).
   c) Make sure that assets are uniformly inserted into each year
      i) (e.g., 6.6 + 1/3 SJR from November – March)
      ii) JPOD
      iii) Intertie
      iv) Probably easiest to run Delta storage using Delta wetlands rules, ignoring Bacon intertie.
   d) Confirm accounting system for b(2) water.
      i) Daily costs vs seasonal net costs
      ii) Spend 800 kaf each year, if necessary by taking delivery in Shasta and Folsom?
      iii) Standardize how we are treating the WQ account and the cost sharing of cuts in late February and March.
   e) Add in new tools
      i) groundwater storage – either within model or as separate accounting.
         (1) Semitropic for Game 1a
         (2) Several additional sites for Game 1b.
      ii) Use Demand Shifting of 60 kaf.
      iii) Water purchases?
      iv) Efficiency for Scenario 1b?
   f) Operate to optimize supplies (e.g., shifting upstream storage to SLR in fall).
8) Convert results into DWRSIM metric.
9) Run Scenario 2 – Same as Scenario 1, but with different asset sharing.
10) Need to analyze process of allocation determination vs actual delivery capability for CVP. I suspect that, because of the uncertainty created by unpredictable implementation of b(2), the CVP will frequently allocate less than can actually be delivered. If so, then our gaming could overestimate water deliveries (since farmers weight allocations heavily in making planting decisions). If so, we need to:
   a) Estimate the probable overdelivery in the game using the current allocation methodology
   b) Attempt to develop risk management techniques that might allow for an allocation methodology that better matches allocations with actual delivery capability. Such tools include:
      i) All the tools used in dealing with low point problems (naturally, since the failure of an allocation scheme will be manifested as a low point problem).
      ii) Various insurance mechanisms.
      iii) New SOD storage.
      iv) Increased use of EWA, rather than b(2) to make export cuts (since EWA cuts must be repaid, these kinds of cuts produce less instability). Perhaps increased use of b(2) upstream.