

The New Base Case Scenario

Just some thoughts...

Discussion Points

- Difficulties with the current Base Case Scenario
- Possible Uses for a Base Case Scenario
 - We figure, if we understand how it will be used, we have a better chance at designing it properly
- Possible New Base Case Approaches
- Note: all of these slides are meant only to spur discussion—feel free to add/subtract ideas

What folks don't like about the current Base Case Scenario (and pitfalls discussed while designing same)

- We made this list to help us draft a new scenario that avoids the same pitfalls
- Here's the list:
 - You can't roll the clock back to 1980 practices
 - You can't predict future water supply and weather
 - You can't predict human response to changing administrative and water supply conditions

- List (continued)
 - You can't predict technology changes
 - Current base case does not reflect extended drought conditions
 - Current base case does not predict the future correctly

Uses for a New Base Case Scenario

- Predicting whether large impacts of past water use are yet to be realized
 - If nothing changes for water management/use, what happens to the aquifer?
- Provide a context for selecting “management goal” aquifer water levels and discharges for the Aquifer Management Plan

Possible Approaches

1. Extended Recharge Data Set/Average Year Approach
 - a) Keep first 22 years of data, estimate 2003-2006 data,
 - b) make a realistic looking 'average year', keeping current land use/GW-SW mix, etc.
 - c) Run the 1980-2006 once, with ending heads reflecting the drought years
 - d) Attach the 'average' year data and run that single year over and over at the end of 2006

2. Recent Years Approach

- a) Use 1995-2002 data
- b) Use end of current transient model (1980-2002) as starting heads
- c) Average those years, run repeatedly
- d) Captures wet and dry years, reflects current practices

3. Selected Single Recent Year Approach

- a) Pick a single recent year which is representative of 'average' conditions
- b) Use end of current transient model (1980-2002) as starting heads
- c) Run selected single year repeatedly
- d) Reflects current practices, uses an 'average' year

4. Five Selected Years Approach

- a) Pick five (or six) single recent years which represent wet, dry and in-between conditions
- b) Use end of current transient model (1980-2002) as starting heads
- c) Run each selected single year repeatedly
- d) Create a set of 'traces' representing wet, dry and in-between futures
- e) Reflects current practices, predicts various future conditions

- An off-beat idea on the last approach would be to create an 'Alternative Futures' spreadsheet
 - Take the predicted future impacts of each of the selected years
 - Allow the user to specify a series of wet, dry or average years, in any order they want
 - Superimpose the individual traces on the 2002 ending heads, reflecting the user-specified order of dry and wet years to predict the selected 'alternative future'

5. Randomization of 5 Selected Year Approach

- a) Select 5 of last 10 years, as in option 4
- b) Create a transient data set where each successive year is a random selection of one of the five actual years
- c) Use end of current transient period (1980-2002) for starting heads
- d) Use current land use, GW/SW mix, etc
- e) Run this randomized order of 5 actual years into future to predict future conditions