

Extracting patterns from database

1. I disagree that it would be a “mistake” to extract more from the data. One of the major problems over the past several decades has been the lack of detailed data analysis. Building models from seasonal averaged data does not help resolve issues and does not help determine operations that protect fish. This was a major reason for going to the real-time program. What has been needed is a real-time look at the historical data, much like present reviews of the weekly survey data for delta smelt. A similar review of the historical data from the summer townet, salvage, egg/larvae, and fall midwater trawl surveys compared with water flow and export conditions would yield important features about delta smelt. In my experience looking deep into the daily patterns in any one year provides valuable insights into the way the system works. Each year is usually unique in many respects and provides important insights that can help guide the future.
2. A detailed review of daily patterns in export, outflow, and salvage can provide a sense of what is causing problems. A good example is the recent May peak in delta smelt salvage that was attributed to closure of the barrier at the head of Old River. The daily pattern (exhibited on the wall of RM 1131) clearly shows the relationship between the salvage peak and closure of the barrier; whereas, if these data were analyzed in the typical monthly or seasonally averaged way, the pattern and the obvious relationships would be lost.

San Joaquin Salmon

1. The only solution for San Joaquin salmon is at least partially isolating exports in winter and spring of dry years. Peaking flows would help get fry to Delta in winter; isolating exports would protect these fry from salvage.
2. A salvage model that is based on daily conditions would help depict salvage problems with San Joaquin salmon.
3. The concept of letting the first flow pulse after a dry period pass unimpeded to allow salmon and other fish rearing in Delta to get to Bay is becoming more popular.

Benefits of New Storage

1. There appears to be some misconceptions about new storage, especially in terms of rules for filling and releasing. Model runs showing how it would work would help.

Tuolumne Hatchery

1. We need to set goals/targets for the Tuolumne watershed that are based on an ecosystem approach. We need to set realistic goals/targets for the operations of the reservoirs and water projects in the Tuolumne system. What is our short term target? Is the hatchery the solutions or just one of a possible array of solutions? Should we operate the hatchery only under specified “bad” conditions? Should we develop the hatchery in stages to view its cost-benefit and contribution, as well as to work out any technical details that may be necessary? Or should we focus most of our available resources on buying water, improving habitat, and reducing exports before going with the hatchery? Some of these questions are for Phase II and some for Phase III.