SIT In-Person Meeting, 11/20-21/2019

Model results from multiple scenarios were used as the basis for conversation, with the same total number of units of effort distributed differently across streams/rivers. Analysis of model results suggested rearing habitat restoration actions in mainstem Sac, at least one low-mid Sac action if tier 3 monitoring is available, reconnecting ephemeral tributaries, and creating Stanislaus/lower San Joaquin habitat. This is all for the purpose of improving connectivity in the long term, the ‘string of pearls’ method of finding as much spatial connectivity as possible. Prioritization of streams and groupings of streams for activities in the next five years were discussed at length. Also discussed: updates for habitat estimates, Feather River habitat changes after spillway failure and flow of sediment.

Other actions on other streams include more habitat on Clear Creek, Butte Creek survival improvement, and creation of a targeted monitoring program to increase data density. Battle Creek was also discussed in terms of juvenile/rearing habitat for winter and spring runs. Lower Deer Creek mentioned for spawning; there, a flow action increases survival. Cow Creek now lobbied for; 35 miles of new habitat could be opened up. The model was built to compare units of effort applied to different streams/rivers; opening up 35 miles of new habitat on Cow Creek doesn’t get represented in model except as several (how many?) units of effort in the correct category as compared to something happening on other creeks. The model says Cow Creek gets more benefit from downstream habitat than stuff on Cow Creek, but this seems to be greeted with skepticism. Yuba is also mentioned. In short, many tributaries are proposed for actions when considering aspects not represented in the model, but no quantifiable cross-river comparison was made other than the model run itself. It was noted that smaller creeks don’t show up as much on model results, reflecting the reality that larger rivers can have a greater effect on populations.

This long discussion of priorities illustrates what could be done with a great deal of resources and time. However, the focus is to show a response in fish numbers due to actions undertaken, demonstrating control over the system by concentrating in a few areas meets that immediate need. All the computed results will go into charter decisions; SIT will annotate decision by saying why the benefit in terms of expected returns, as well as diversity considerations, appear in model results, as well as detailing aspects that the model doesn’t capture. Model results tempered but not replaced by expert judgment is how SIT work through structured decision-making can be best presented. Concrete process, ruleset needed for questioning the model, rather than questioning stream-by-stream. The interpretation was offered that identifying ‘no brainers’ has occurred and now we’re arguing on the margins.

A group review of the model was begun. The model uses A through F regions in Delta now. Grading of model: Low, Moderate, or High degree of empirical support/data type (e.g. surrogate, from another basin = Moderate)/data availability. Spawning habitat gets a Moderate because many estimates are out of date. Juvenile perennial and ephemerally inundated rearing habitat also got Moderates; future actions include ephemeral tributary additions. Other aspects are to be graded later by SIT members.

With regard to temperature, there was suggestion to make the model move fish in response to high temperatures instead of killing them – will they switch it 100% or is there some fraction that should die? What data drives that decision? Also mentioned was temperatures of floodplains, which would require a lot of data and at least 2-dimensional modeling. There would likely be a different relationship for each floodplain, but perhaps research exists to convert in-river temperatures to floodplain temperatures. When Jim went over the temperature part of the model nobody had any questions.