

Project Name: Juvenile Salmonid Outmigrant Monitoring Evaluation

Client: North State Resources, Inc

Date: Feb 4, 09

Memo: Progress report, from kick-off through the month of January 2009

Project initiation:

Project kick-off meeting was held via conference call on Dec 17, 09, with Carl Schwarz, Nina Hemphill, Keith Marine, and Darcy Pickard.

Task 2, Data extraction:

We began work on this task in December, with Carl Schwarz laying out the information and format that would be required to complete the necessary analyses. We then began to work through the access datasets provided and the corresponding outmigrant reports in order to figure out where the necessary information could be found. Our initial work has focused on the more recent datasets where regular trap calibrations occurred: Willow Creek 2003-2007 & JC/PT 2002-2007 (TRRP Outmigrant Monitoring Information Matrix).

- The catch information is readily available and the necessary queries have been set up to extract these data.
- The covariate information such as flow and temperature is generally available. The USGS gauge data are easy to obtain. The flow at the traps is not always available and we may need to assume the same flow at the traps as at the USGS gauge and simply use the size of the traps to determine the proportion of the river being sampled. There is generally some form of temperature information available (water or air), we plan to use the most complete dataset.
- There is little health information consistently documented except for fork length.
- The earlier datasets (pre-access database) may be useful for the run timing & health analyses but have limited value for the MRC review.
- The re-capture information was not easy to find. There is a table in the database for 'Marked' fish which describes the unique mark identification and the number of marked fish released on a given day.
- There is another table called 'OutmigrantBioData' where biological data e.g. weight or length can be stored. This table also has a tick box indicating whether or not the fish was a recaptured fish. This table also has a 'mark' column describing the mark. Unfortunately, there were many inconsistencies with this table (e.g. the recapture box was ticked but no mark was recorded) and so we weren't sure if this really was where recaptures were being recorded. We received feedback from Paul Petros (HVT) that this table was in fact the correct place (see email dated Dec 19, 08).

- We need to link the recaptured fish to their corresponding mark date. In this way we can tell how many fish that were released on a given day were recaptured in the traps.
- Generally speaking the same mark was used for more than a single day, usually one mark for one week. Carl recommends we track the information to the smallest time increment possible. The Query we are writing to extract and match up the recapture & mark data will use the following rule: It will match up the recaptured fish with the most recent mark & release event with the corresponding mark identification. We will also report all of the mark & release events with their mark identification. From this we may decide to group by week or some other interval if we can't distinguish between events.

Willow Creek data:

Unfortunately, we have found a large number of discrepancies in the Willow Creek data that we have not yet been able to rectify. We contacted the Willow Creek contacts supplied by Nina Hemphill (Bill Pinnex & Shane Quinn) on Jan 29th. We are waiting for a response to help us figure out what is wrong with the dataset or our interpretation. As yet we have been unable to match up the recapture data with the marked release data. We hope that they will be able to help us resolve this issue quickly. There are corresponding reports for some of the years at least so it may be that we have misunderstood how the data was recorded or they may have additional data stored elsewhere. The following is a list of some of the inconsistencies we have found, more detailed information is contained in an attached excel spreadsheet (mark-recapture-discrepancies.xls).

- There are entire years of data in BioData with recapture and mark data yet no mark data in tblMarked at all for those years/traps.
- Even when there is data for corresponding years in tblMarked with recaptures from BioData, mark codes used don't match clearly, or timing is still off between recapture dates and when records of fish marking exist.
- There are 22 records in BioData that are recaptures but have no mark code.
- There are numerous mark codes recorded in BioData that do not exist in tblMarked.
- There are data in tblMarked for sites that do not occur in BioData or in tblSites for that matter (not really a problem, just something I noted).

Pear Tree and Junction City data:

It appears that the recapture data provided in these databases are complete. The recapture data seems to match the marked table.

Next Steps:

- We will follow up with Willow Creek to determine whether we are missing data or misunderstanding how to interpret the existing data. Depending on the outcome the project team will meet to discuss how we should proceed with this.

- We will use the most recent Pear Tree database (2006 - 2007 OutmigTraps 2005v1.1.mdb) as the test case for extracting the data of interest. We still need to complete the query to match up mark & release data.
- Carl and Darcy will use the test dataset to begin work on the Mark-recapture related tasks in Tasks 3 & 4 and if adequate then the remainder of the available data will be extracted.
- I would also like to ask the client if the two trapping locations work together to ensure unique marks and whether the Willow Creek site documents captures from the upper sites?
- Keith, Darcy, and Carl will meet to determine what information besides the mark-recapture data we'd like to extract and in what format. In particular we should discuss what we'd like to extract from the pre-access database data. My assumption is that catch, fork-length, and some metric of run-timing would be of interest.
- We should ask the client (TRRP) to provide us with a brief summary and timeline of the various restoration actions that have been implemented in the Trinity River for the period of the outmigrant monitoring data (as per Task 4).

Budget /Schedule Update:

Due to the inconsistencies in the datasets, this task has taken more time than expected. We are still on schedule to have this task finished by the end of February. Once we have received feedback on the Willow Creek dataset it is probably a good idea for the project team to regroup and decide how we should proceed. There are several possibilities that I see:

- Depending on the outcome we may want to ask them to help us by providing the data in a readily useable format (they may already have this information extracted for their earlier report productions)
- We may need to limit the scope of the data extraction or to pull some time from later tasks to help us finish this task.

Given the questions we have encountered so far it has become even more evident that providing the client with a clean dataset is in itself a valuable product.

