



M98

Memorandum

Date:	July 10, 2013
To:	Sandra Rivera Alameda County Community Development Agency 224 W Winton Avenue, Room 110 Hayward, CA 94544
Cc:	Jim Estep, Julie Yee, Joanna Burger, Sue Orloff, Michael Morrison, Chris Brungardt, Brian Karas, Karl Dickman
From:	Doug Leslie, Manager, Alameda County Avian Fatality Monitoring Team
Subject:	Results of the Now Complete Database “Scrub”

As you may recall from the last in-person SRC meeting, issues arose concerning the table of fatalities used to generate the *Draft Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2011 (M96)*. This table erroneously contained several records from the 48-hour search interval study (i.e., the Kestrel–Burrowing Owl study). In addition, we were having difficulty producing a clean dataset for the detection probability analysis that can utilize information from the QAQC study, the 48-hour search interval study, and the scavenger removal trial study in a complementary and composite fashion. As a result of these issues, we initiated an exhaustive “scrub” of the fatality detections table to ensure that all records are accurate and complete.

The scrub also included an exhaustive set of queries to the entire database (including the *Transects* and *Turbines* tables) to identify *potential* errors based on sets of seemingly mutually exclusive conditions—for example, a fatality status of “valid fatality” with a carcass position more than 125 meters from the nearest turbine. We then checked a sample of fatalities from each bird year by comparing the data sheet to the values in the database. Based on these samples, we decided to check every fatality data sheet against the values in the database.

We set up a process by which the existing values from the database were placed in spreadsheets. These spreadsheets were then checked against the paper records. Errors and/or omissions were then updated in the spreadsheet, and the spreadsheet was used to update the database. This process proved to be too time consuming to be practical, so we did *not* update records for unidentified birds (with exceptions for unidentified gull, unidentified Buteo, and other records that could be assigned a valid detection probability) and nonnative birds. We then re-ran the exhaustive set of queries

performed at this beginning of this exercise and resolved any remaining issues. Results of the database scrub are provided in Table 1.

Table 1. Total Number of Corrections and/or Omissions That Were Updated in the *Detections* Table of the Altamont Avian Fatality Database as a Result of the Data Scrub

Table Field	Number of Updates	Category of Defect
FatalityNumber	15	Major (other)
DetectionNumber	5	Major (other)
WasInjured	4	Major (fatality status)
DetectionType	9	Major (fatality status)
TransectProtocol	17	Major (fatality status)
TransectType	20	Major (fatality status)
SpeciesCode	36	Major (fatality status)
AgeClass	666	Minor
Sex	780	Minor
BlobID	7	Major (fatality status)
StringNumber	46	Major (fatality status)
TurbineLabel	139	Major (fatality status)
TurbineBearing	78	Minor
TurbineDistance	82	Major (fatality status)
StructureType	22	Minor
StructureIdentifier	24	Minor
StructureBearing	29	Minor
StructureDistance	29	Minor
PositionX	223	Minor
PositionY	220	Minor
BodyParts	1,111	Minor
CauseOfDeathID	106	Major (fatality status)
DeathFactors	921	Minor (fatality status)
DaysDeadRange	151	Major (fatality status)
WasScavenged	1,024	Minor
Scavengers	578	Minor
CarcassCondition	258	Major (other)
WereInsectsPresent	1,996	Minor
InsectTypes	287	Minor
WasHeadPresent	1,160	Minor
EyeCondition	196	Minor
WasFleshPresent	303	Minor
FleshTextures	478	Minor
WasEnamelPresent	1,878	Minor

EnamelPresence	1,289	Minor
WereBonesPresent	1,556	Minor
BoneColors	629	Minor
WasSampleTaken	1,748	Minor
SampleTypes	634	Minor
DistanceSighted	160	Minor
PartsSighted	1,412	Minor
WasLeftInField	545	Major (transect sequence)
Discoverer	1,378	Major (transect sequence)
Notes	388	Minor

Fields with high numbers of updates represent those where data from the data sheet had not previously been entered into the database, but were updated during the data scrub.

In addition to the above, we examined the database structure and fixed a problem relating to the QAQC study. We also re-examined all records from the scavenger removal trial study and the 48-hour search interval study so that we could produce a clean records set for the detection probability analysis. These efforts are now complete.

Finally, we issued requests to the power companies to review the turbines table and received several minor updates from all companies (with the exception of Flodesign). These updates have now been incorporated into the turbines table.

We are now producing the dataset necessary to update the detection probability estimates, and we will then produce results for the final version of the 2011 bird year report. That report will be distributed before August 1, 2013. When the report is finished, we will turn our attention to updating the data dictionaries and have them posted on the data portal.

As you know, SRC member Julie Yee is concurrently attempting to replicate our results independently by programming our analytical framework in SAS. This should provide a thorough peer-review of the analytical framework and to a lesser extent the database itself. She will undoubtedly have some suggestions for improving the analysis.

We are exceptionally grateful to Karl Dickman, our new database manager, and Levin Nason, our field crew manager, in addition to Julie Yee for the hard work and exceptional effort they have put into this process.