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Memorandum

Date:	August 12, 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
From:	Doug Leslie, Manager, Alameda County Avian Fatality Monitoring Team
Subject:	Update on Deliberations of the Analysis Subcommittee

The analysis subcommittee, comprised of Doug Leslie, Julie Yee, Michael Morrison, and Brian Karas, has convened 3 times since the last in-person meeting of the SRC. Karl Dickman, a mathematician and the database manager for the monitoring team, also participated in the deliberations. Our objectives were to exchange information on the database cleanup process, complete a review of the analytical framework through independent replication of the calculations used to produce fatality estimates, and to suggest changes and/or improvements to the way the analyses are conducted.

Several items were discussed on the last call, not all of which dealt with the way in which estimates of fatality rates and total fatalities are calculated, and not all of which could be resolved. Some of the questions we addressed are more appropriately addressed by the entire SRC.

1. The suggestion was made to make an adjustment for variation in search radius. The consensus was to include a more robust explanation of how search radii were chosen for the current study.
2. An issue was raised concerning the disposition of carcasses found on first searches when new turbines are added to the sampling design. Clearing searches have been clearly identified since the 2010 bird year when the rotating panel design was first implemented. However, first searches were not identified when additional turbines were added to the design in 2007. The committee agreed that first searches at new turbines should be identified and the associated fatalities excluded from the analysis.

A related point was raised concerning the first search in a new monitoring year, at turbines that may or may not be new to the monitored sample. The search coverage of a turbine in a monitoring year is defined to start on the date of the first search that year if there was no preceding search within 90 days. Fatalities discovered on these dates would have likely occurred prior to or during gaps in the search coverage, and should be excluded from fatality rate estimates to avoid biases. Since most, if not all, of these fatalities would have been discovered by a clearing search, then they would automatically be removed under the preceding rule of clearing search exclusions. It is not clear whether this rule would eliminate all such fatalities, but it is expected to eliminate most if not all of them.

3. An issue was raised concerning the inclusion of fatality rates from Diablo Winds turbines into the rates for the 3 BLOBS in which they occur. The committee agreed we should make Diablo Winds turbines their own BLOB, even though they would have no spatial component.

Additional minor tweaks were made to the exact form of the analysis as they came up during the process of replicating the analysis. These changes have been incorporated into the appendix detailing the analytical methods that accompany each annual report.

4. The idea of attempting to look at annual variation in fatality rates over a longer period than the period of the current study by including information from the baseline period was discussed. Potential pitfalls associated with this idea are significant differences in the manner in which data were collected between the two studies and the lack of faith in the integrity of the data the MT has from the baseline period. This should be discussed by the full SRC at its next meeting.

5. The use of the rolling average as a basis for evaluating change over time when multi-annual cycles in fatality rates are present was discussed. We agreed that the approach has limitations, but alternative suggestions beyond comparing one peak to the next were not forthcoming. This should be discussed by the full SRC at its next meeting.

6. We discussed the use of reference groups such as Diablo Winds and the Santa Clara operating groups as the basis of evaluating the effectiveness of management actions. These comparisons have been included in the latest report.

7. The idea of using a metric other than installed capacity (i.e. permitted capacity) as the basis for APWRA-wide fatality estimates was discussed, as a result of discussions about the lack of quality data concerning removal dates for the 2 remaining non-repowered project areas in Contra Costa County (Tres Vaqueros and NorthWinds). The suggestion was made to use both metrics and compare the results to see if they are in agreement.

I would like to thank the Analysis Subcommittee for their time and efforts in improving this process, and in particular Julie Yee for the work she has done in reviewing the analytical process and replicating the analysis. Without her hard work and dedication to the process, the analysis of fatalities in the APWRA would have surely been much poorer.