

Audubon Questions to SRC

1. In SRC member Yee's 9/14/07 "Guide to September 2007 Analyses on Shutdown Effect," she points to an analysis of the data that shows kestrel fatalities are 76% less during shutdown compared to operation.

Question: Is this the type of analysis of the data that persuaded the SRC to recommend a four month seasonal shutdown? Is it correct to say that the SRC believes there will be a substantial reduction in avian mortality of the four focal raptors if there is a four month seasonal shutdown beginning on November 1, 2007?

Question: Does the SRC believe it is probable that the companies are currently on track to reach a 50% reduction in raptor mortality as defined in the Settlement Agreement? Why or why not?

2. SRC member Yee's Guide also states:

For the analysis on page 2 of M16, there were over 15000 turbine survey visits, and the estimated reduction is highly significant (p-value ,0.0001).

Question: Would the SRC explain the significance of this information so a layperson can understand what is meant by "highly significant"?

Question: How is the "shutdown effect" estimate derived in the M16 analysis? For example, on page 1, from where is the value of parameter "a" (0.000225) or parameter "b" (0.2399) derived?

Question: Might different statistical tools or models change the analysis? For example, under "Specifications," the M16 report states that "Distribution for Dependent Variable" is "Poisson," and that the "Optimization Technique" is "Dual Quasi-Newton." What do these tools entail? Would other models/tools/techniques change the conclusions supporting seasonal shutdown?

Question: Why do the various units of measurement (MW or Turbine) and the differing sampling units (Turbine or String) change the "fit statistics" in the M16 report? What does it mean to change "fit statistics" based on turbine vs. mega watt units?

Question: The M16 analysis reports % mortality reduction in terms of reduction per turbine, per MW, or per string. However, these respective reductions vary. What would be the overall % reduction in mortality from seasonal shutdown?

Question: Why is the M16 report's standard error so high, and the t-Value so low, for Golden Eagles?

3. In Wally Erickson's September 12, 2007 Updated Seasonal Shutdown Analyses, he states,

For red-tailed hawks, the fatality estimate is 2.6 times higher at the operating turbines compared to the non-operating turbines.

Question: Does the SRC agree with Erickson's analysis of the impact of operating turbines on red-tailed hawks?

4. While acknowledging that a seasonal shutdown is likely to reduce mortality for red-tailed hawks, Erickson also claims "[t]he data for the other 3 raptor species is too limited to make any inference."

Question: Is Erickson's claim about the adequacy of the data for the three other focal raptor species inaccurate? SRC Member Yee's Guide to the September 2007 Analyses on Shutdown Effect states,

For example, in the first analysis on page 2 of M16, the estimated rates of kestrel fatalities per turbine is 76% less during shutdown compared to during operations with a standard error of 15.7%. Whether the shutdown is one month or two months in winter, the percent reduction in fatalities is predicted to be 76% less.

Question: Are Erickson and Yee looking at the same data? Please explain.

Question: What work have the SRC members (and/or the Monitoring Team members) done since receiving the incomplete analysis from Erickson (August 2007) to increase our understanding of how the seasonal shutdowns have been affecting raptor mortality at the APWRA?

Question: The SRC has now recommended that the companies implement a 4-month shutdown from November 2007 to February 2008 in an effort to reach the 50% reduction requirement. What factors led to this recommendation from the SRC? How confident is the SRC that this winter shutdown will have a positive impact on reducing avian mortality?

Question: Are there other measures that the SRC can recommend with similar confidence that will have a positive impact on reducing avian mortality?

Erickson's 9/12/07 Update also points out some problems with the actual on the ground monitoring.

Question: What is needed to improve the monitoring of avian mortality during the seasonal shut down?

Question: How does the SRC envision phasing in the seasonal shutdown to match the monitoring team's on-the-ground capabilities?

Question: How often will the turbines be monitored during a four month seasonal shutdown?

Question: With all the turbines shutdown does the existing monitoring team have the resources to gather the necessary data, so the SRC can evaluate the effectiveness of a four month shutdown? If not, what does the SRC/Monitoring Team require to ensure that the turbines are monitored per the protocol during a 2007-08 winter shutdown?

Question: Can the mortality data from a four month seasonal shut down be compared to the mortality data from the $\frac{1}{2}$ - $\frac{1}{2}$ seasonal shutdown?