



Altamont Winds Inc.

AVIAN FATALITY DATA ANALYSIS, 2007-2009

20 August 2009

1. SUMMARY

The data for wind turbines operated by Altamont Winds Inc. (“**AWI**”) show a markedly decreasing trend in found focal raptor species — **36% in 2008** and **85% in 2009**, compared to 2007.

In addition, based upon the number of fatalities that were found during the winter seasonal shutdown period, it is clear that fatalities continue to occur even when wind turbines are shut down, which makes us question the effectiveness of the winter shutdown period.

2. METHODS

The attached graphs (Figures 1 and 2) and Table 1 represent an index of avian fatalities associated with all monitored wind turbines operated by AWI in the Altamont Pass Wind Resource Area (“**APWRA**”) between January 2007 and July 2009. In March 2007, the number of monitored AWI turbines was increased from 313 to 424. With 111 fewer turbines searched during the first three months of 2007, the total number of fatalities found in 2007 is expected to be biased low. As such, the actual reduction in avian fatalities may be greater than the 85% figure mentioned above.

The 2007 to July 2009 timeframe was selected because a consistent fatality-search methodology was employed by the Jones and Stokes Monitoring Team (“**Monitoring Team**”). During 2007 through 2009, all turbines were searched approximately every 30 days. Prior to 2007, there was significant variability in the time interval between searches. It is therefore logical that 2007 is a more appropriate baseline for comparison than the earlier studies from 2002 - 2003 because it reflects a consistent methodology.

The data for this study comes from two places: the Monitoring Team’s database on the Scientific Review Committee’s website (“**Website Database**”) and the Monitoring Team’s field sheets (“**Field Sheets**”). At the time of this study, the Website Database included search results only through March 2009. From April 2009 to July 2009, fatality data was collected from a database created by the Altamont Infrastructure Company based on the Field Sheets, and sent monthly to AWI. Notably, the data set is consistent between the Website Database and the Field Sheets, as they are both created and published by the Monitoring Team.

Searcher efficiency and scavenger rates are not included in the study because only relative fatality changes over time are examined. Moreover, the consistent methodology arising from

the use of a 2007 baseline reduces the need for unsupportable estimates that tend to bias the results in an unknown manner.

The graphs below do not attempt to describe the total number of fatalities that may occur throughout the APWRA, but instead look only at AWI's monitored turbines to evaluate relative fatality changes over the past three years. For this reason, only fatalities found by the Monitoring Team while conducting their turbine searches were included. No incidental finds or fatalities found by wind turbine field crews were included because these finds were haphazard in nature and not part of the search protocol. The one exception to this rule is the inclusion of golden eagles found at monitored turbines, and consequently removed for regulatory reasons, prior to the Monitoring Team's survey dates. The idea was that these birds would have been found by the Monitoring Team if they were not removed due to the large size of the carcasses.

For clarification, the focal raptor species include golden eagle, red-tailed hawk, American kestrel, and burrowing owl.

3. RESULTS

Using a baseline of 2007 and considering only the first seven months of each year (January – July), there was a decrease in found focal raptor fatalities of 36% in 2008 and 85% in 2009. The first seven months were evaluated because only 2009 data through July are available, but based upon the consistent trends, we would expect the remainder of 2009 (when the data becomes available) to show consistent results.

These results demonstrate that the Avian Wildlife Protection Program and Schedules' fundamental objective of "progressive and substantial reductions in avian mortality and injuries" has been clearly achieved.¹

The Alameda County Scientific Review Committee may provide the reasons for the decrease in avian fatalities. AWI understands that the specific reasons may be difficult to define due to variables that were not controlled for and data that was not collected during monitoring. AWI expects, however, that the following reasons (or a combination thereof) contributed to the declining avian impacts, including but not limited to:

1. high risk turbine shutdowns
2. derelict tower removals
3. AWI black blade painting
4. annual variations in bird use or abundance
5. birds becoming habituated to operating turbines
6. possibly winter seasonal shutdowns, but the data is certainly conflicting here (see below)

The table below of monthly focal raptor fatalities makes us question the effectiveness of the winter shutdown period. As shown, fatalities continue to occur during the months when no turbines are in operation (December 2007, December 2008, and January 2009).

Finally, this analysis is indicative and is not meant to be a complete scientific analysis. It does, however, clearly demonstrate a substantial downward trend of avian fatalities over the last three years using a sound and consistent methodology.

¹ Alameda County Conditional Use Permit, September 22, 2005, Exhibit G-2, Page 1, Paragraph 1.

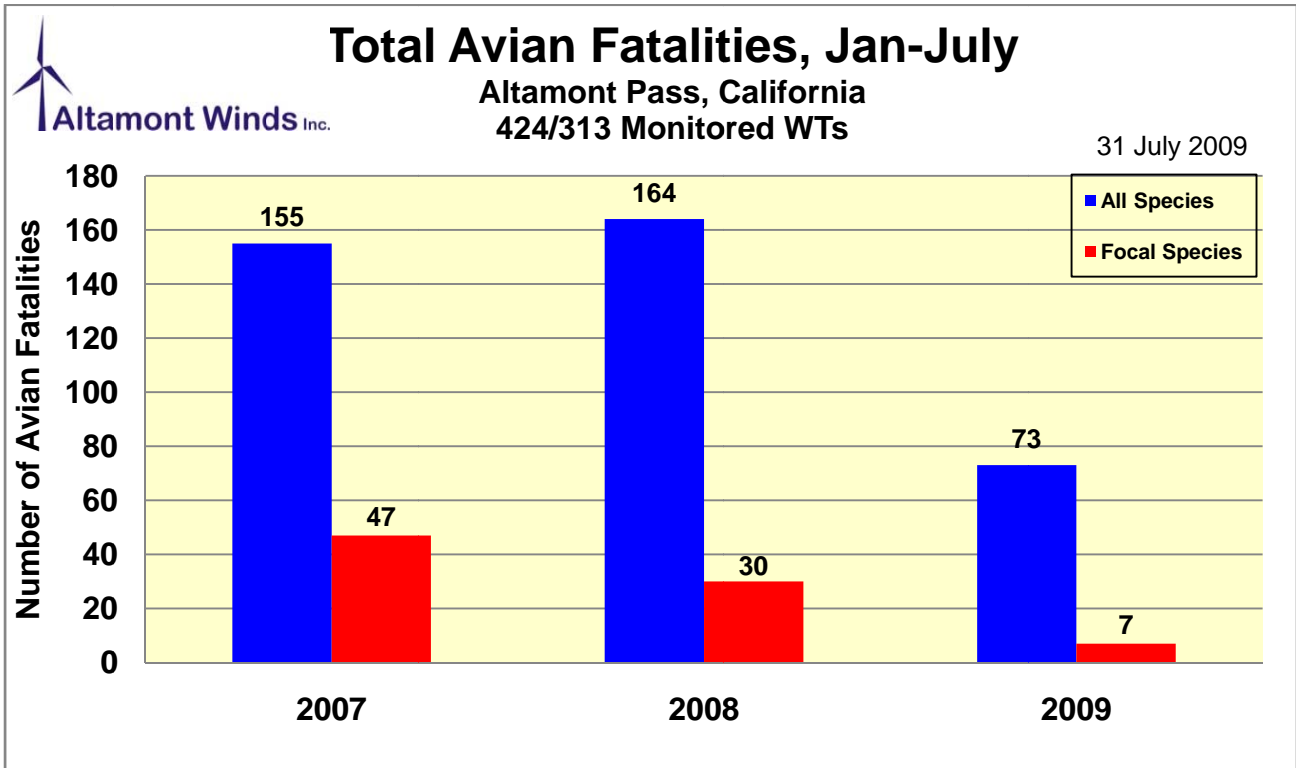


Figure 1. Total avian fatalities found by the Monitoring Team during searches of wind turbines owned by Altamont Winds Inc. for the first seven months of the year from 2007 to 2009.

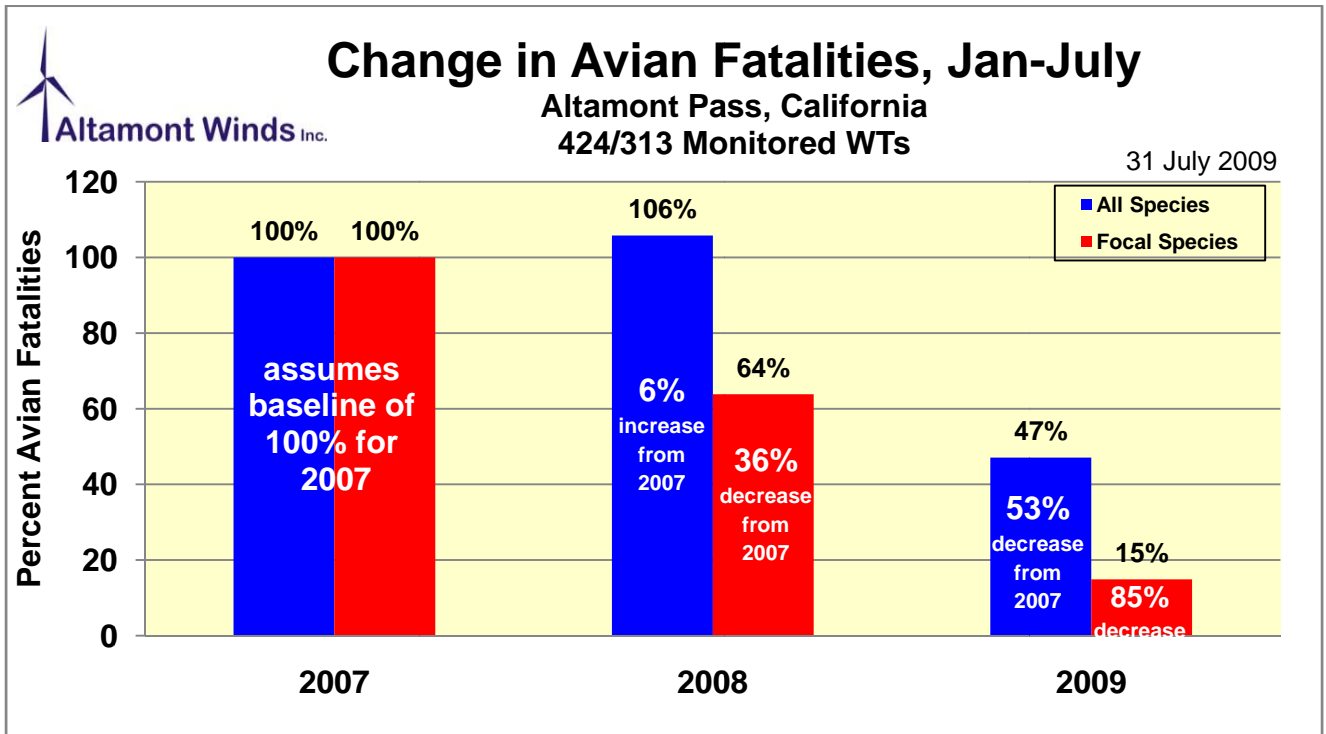


Figure 2. Total percent change in avian fatalities found by the Monitoring Team during searches of wind turbines owned by Altamont Winds Inc. for the first seven months of the year from 2007 to 2009. As shown on the graph, a markedly decreasing trend in found focal raptor species has occurred — **36% in 2008** and **85% in 2009**, compared to 2007.



Total Focal Fatalities Each Month

Altamont Pass, California
424/313 Monitored Turbines

31 July 2009

Focal Species Fatalities												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007	4	6	5	12	10	8	2	3	5	9	2	4
2008	8	8	5	3	1	2	3	2	1	4	2	2
2009	1	1	1	1	2	0	1					

Table 1. Total avian fatalities found each month by the Monitoring Team during searches of wind turbines owned by Altamont Winds Inc. from 2007 to 2009.