

Briefing Memo: Previous SRC Discussions on Seasonal Shutdown Analysis

Prepared by the Center for Collaborative Policy, 7/14/2009

The SRC has not had a significant discussion on seasonal shutdown analysis since fall 2007, when the Monitoring Team, Julie Yee and Shawn Smallwood, individually, prepared several analyses of shutdown effects, and the SRC recommended a 4-month winter shutdown.

April 2007 SRC Meeting ([P28 SRC Meeting Summary Apr 2007](#))

- **Seasonal Shutdown Data Report presented** by WEST Inc., showing fatality rates about 50% higher at operating turbines than at turbines shut down during the winter. SRC members were concerned about the high number of fatalities recorded during shutdowns, and saw the results raising several questions:
 - To what extent are burrowing owl feather spots predator-related fatalities?
 - What is the extent of background raptor mortality?
 - How close were the fatalities attributed to shut-down towers found from nearby operating turbines?
 - Were there any aspects of the environmental setting, such as end row or top of ridge, associated with fatalities?
 - Were the data affected by some shutdown searches occurring after turbines had been turned on?
 - Some turbines are not locked down when they are shut down and could slowly rotate with the wind, at about five rotations per minute. Could this rotation have any impact on raptor mortality?
 - Is there a habituation effect from shutdown?

The Monitoring Team will attempt to analyze the second year of winter shutdown data for a cumulative report at the SRC's June meeting. **The SRC asked that the report include:**

- Data by locked/unlocked turbine type
- Data by month to look at March issues
- A table of 4 species and all raptors as function of different tower types and for the number of towers
- Analysis of mortality at turbines close to operating turbines and not close to operating turbines
- More data, including cause of death attributed to each bird.

August 2007 SRC Meeting ([P53 SRC Meeting Summary Aug 2007 final](#))

- First presentation of fatality monitoring data included seasonal shutdown data and **problems analyzing data because of timing of searches relative to shutdown or startup**. The SRC agreed that searches in the future should be completed right after shutdown and right before startup so the data are clear. If necessary, the shutdown period can be varied in order to achieve that goal.

September 2007 SRC Meeting ([P49 SRC Meeting Summary Sept 2007 final](#))

- SRC recommended a 4-month winter shutdown.
- Newly produced **reports and analyses of winter shutdown data** were presented: an updated seasonal shutdown analysis (M13) and a draft avian use survey (M14) by Wally Erickson, a set of tables of filtered winter shutdown fatality data by Brian Karas (M15), and a Poisson data analysis of operating vs. non-operating turbines by SRC member Julie Yee (M16). (These and other seasonal shutdown analyses are on the SRC website's Avian Monitoring page: http://www.altamontsrc.org/alt_amp_report_analysis.php).
- Smallwood (P58) and Yee analyses find significant effect for shutdown for at least one species. Different mechanism seen for burrowing owl mortality.
- For details see pages 3-6, [P49 SRC Meeting Summary Sept 2007 final](#)

September 24, 2007 SRC Conference Call ([P59 SRC Meeting Notes 9-24-07](#))

- Julie Yee presentation of her analyses on **lockdown effect**

October 10, 2007 SRC & Settling Parties Question & Answer Session ([S26 Q and A Session Summary 10/10/07](#))

- Julie Yee discusses her latest winter shutdown analysis starting on page 3.

October 16, 2007 SRC Conference Call ([P64 SRC Meeting Notes 10-16-07](#))

- SRC discussion of 2-month universal shutdown proposal versus cross-over design. This discussion includes answers to MT questions on **winter shutdown design and analysis**.

February 2008 SRC Meeting ([P78 SRC Meeting Summary Feb 2008](#))

Presentation of February 2008 draft of the Monitoring Report:

- Golden eagle and red-tailed hawk **fatalities** decreased during winter shutdown.
- Burrowing owls may behave in a manner during shutdown that results in relatively high mortality, or other raptors may hunt burrowing owls from non-operational turbines used as perches.
- Ergas asked if there is going to be further consideration of the actual **benefits and net effect of winter shutdown** on overall mortality. MT members said integrating bird use will be important, which might allow different years to be compared and the potential causes of mortality to be identified. SRC members said it is a good question, and the answer isn't clear yet.

July 2008 SRC Meeting ([P104 SRC Meeting Summary July 2008](#))

- **Operating Hours Data:** Notes say that the SRC and the Monitoring Team have agreed that the power output data will be critical for the seasonal shutdown study.

Other Related Documents & Analyses

[M13_Table 7—Updated Seasonal Shutdown Analyses, 9/10/07](#)

[M14_Wally Erickson, Draft Avian Use Survey Results, 9/12/2007](#)

[M15_Brian Karas, Winter Shutdown Tables, 9/12/2007](#)

[M16_Julie Yee, Winter Shutdown Data Analysis](#)

[M16z: Overview of M16 Documents](#)

[M16a](#)

[M16b](#)

[M16c: Winter Shutdown Lockdown Effect](#)

[M16d](#)

[M16e](#)

[M16f](#)

[M20_MT Winter Shutdown Effects on Red-Tailed Hawks, 10/15/07](#)