STATE OF CALIFORNIA
ENERGY RESOURCES AND CONSERVATION
AND DEVELOPMENT COMMISSION

Development of Statewide	)	Docket No. 06-OII-1
Guidelines Reducing Impacts	)	Developing Statewide Avian
From Wind Energy Development	)	Guidelines

Comments from the
Center for Energy Efficiency and Renewable Technologies
On Staff Workshop # 2

September 8, 2006

Introduction
CEERT appreciates the opportunity to offer comments on Docket # 06-OII-1, Guidelines for Reducing Bird and Bat Impacts from Wind Development in California. We would also like to thank the Commission and staff for promptly addressing the stakeholder concerns regarding the process of guideline development. The adjustments were important to create a process allowing adequate stakeholder input and forming a product which satisfies all groups involved.

General Comments
An issue which has continued to arise throughout the first three workshops and one which will undoubtedly be of importance moving forward is the gaps in the research of avian and bat habitat, population and behavior. As the discussion on August 28th and 29th made clear, we may never completely understand the nature of birds and bats and their interactions with wind turbines. With these guidelines we are addressing these concerns but not all questions will be answered in this forum. Just as there is likely to be some unknown negative impact to bird and bat species from wind power there are also some benefits to these same species from the expansion of wind power and its displacement of greenhouse gas and toxic emissions. The fact that we may never measure or correlate these benefits or detriments should not impede our efforts to both expand wind power and do our best to protect bird and bat species. These guidelines will serve an important role to build knowledge of wind energy and wildlife interaction and future refinements will undoubtedly improve our efforts to protect these important species.

Pre-Permitting Diurnal Bird Monitoring
As mentioned in oral comments, the pre-permitting monitoring portion of these guidelines will be most important as it represents the best chance for preventing wildlife impacts altogether. In response to your fourth question on this topic, the 20-minute point-count offers the most important piece of baseline knowledge about a potential wind site for a number of reasons. Most importantly, it is the most widely used survey method across the wind industry allowing for comparability across wind sites and allows for a risk assessment through correlation on a pre and post-construction basis. In addition, it is a widely accepted method also recommended by the USFWS, and has been used at

numerous successfully permitted sites across the country. Given the remaining unknowns about wind energy and wildlife it is of the highest priority that future pre-permitting studies be able to build this knowledge to the extent possible. This does not mean that other types of surveys cannot supplement the information compiled from point-counts, nor does it mean that the methodology and information taken in the point counts cannot be refined to offer a more complete picture of avian use.

The fact that this method has become an industry standard used by the majority of biologists performing these surveys across the country should also show evidence of their usefulness. While others have pointed out that these counts may not catch extremely rare events, perfect information is not the purpose of risk assessment. It is also possible that much more rigorous surveys costing far more money would still fail to capture these events and provide limited benefit to avian and bat populations. Realizing that there is not an unlimited amount of funding at the disposal of the wind developers, the California Energy Commission, or any other research institution, it is important to consider at what point this money could be better spent in other ways. Money that might be spent on more expensive surveys could also be applied to mitigation measures or other larger research projects which would serve to save more birds and bats for the amount of money expended.

Point-counts also work well with the techniques wind developers have refined as the industry has grown. Much of the data taken in these counts helps inform developer's micro-siting measures. In preliminary assessments these techniques have shown strong potential to reduce mortality at wind sites, particularly mortality of raptor species. Despite high raptor use at Foote Creek Rim Windpower Project in Wyoming, raptors accounted for only 8% of the mortalities at the site.[1] This stands in stark contrast to mortality figures from first generation wind farms in California. It is also worth noting that these micro-siting techniques have shown the greatest benefit to raptor species. At the same time in California raptors, Golden Eagles in particular, have raised the greatest concern with impacts from wind energy.

The use of point-counts as a standard default study method may also be supplemented, as needed, by other techniques. By using initial habitat surveys and initial point-count data, areas of special concern may be identified and other methods may be used to better understand initial assessments. However, other various tools including mist-netting and radar analysis do not have the same proven levels of effectiveness in addressing avian impact concerns. These tools should be used judiciously while further studies are performed to determine their effectiveness in predicting avian mortality.

In determining the duration necessary for pre-permitting studies, consideration must always be given to existing biological knowledge of the site. For example, at sites where

[1] Erickson, Wallace P.; Rhett E. Good; Gregory D. Johnson; M. Dale Strickland; David P. Young Jr.; "Avian and Bat Mortality Associated With the Initial Phase of Foote Creek Rim Windpower Project", Western EcoSystems Technology, Inc., 2003.

"Phase I" risk assessments indicate low risk to birds and bats and seasonal variability is not likely to significantly change the risk profile, or at sites near existing wind farms with comparable habitat and topography where minimal impacts have been found, it may only be appropriate to perform and assess a single year of surveys preformed during peak-use periods. If no additional concerns are raised after these surveys, a site may be determined to be an acceptable wind resource site. At the same time, if unexpected data appear, such a site may require additional study.

Conversely, for a site having no existing biological data, multiple seasons of data collection may be necessary. In the drafting of the guidelines it will be important to acknowledge that there is not a one-size-fits-all formula. Just as every site is unique, the guidance the guidelines give to the pre-permitting study teams should be tailored to address the unique concerns of each site.

Migratory Bird Monitoring

From comments made by Scientific Advisory Committee member Mike Green, USFWS, it appears that wind projects are not having significant impacts to migratory bird species. This implies little value in the utilization of radar studies to monitor migratory bird use at wind sites. Clearly migration periods should be the first periods of concern when designing studies for wind sites. However, in designing pre-permitting studies, diurnal point-counts provide a much more valuable tool in assessing potential migratory bird impacts. Additionally, the possibility of adjacent or contiguous stopover points for migratory species may also affect the design of pre-permitting studies.

In general it is CEERT's view that the majority of money spent by the wind industry on pre-permitting surveys should be spent on point-count surveys as they have been proven to offer the most useful information in both wind site design and mortality risk. While additional methods may be used when they are determined to be of specific use, ideally at least a portion of this money would come as public investment. Because the usefulness of other kinds of studies for predicting and reducing avian mortality from wind farms has not been clearly defined, the verification of such methods can be viewed as a public benefit. Given the state of the knowledge on pre-permitting monitoring it does not seem appropriate to include other monitoring methods in a default monitoring standard.

Operations Monitoring

Post-construction operations monitoring is of unquestionable value given the remaining knowledge gaps in the interactions between bird and bat species and wind turbines. At the end of the day there is no other way to assess whether mortality predictions are correct and to assess what other measures may be put to use in reducing avian mortality. For the foreseeable future it will be necessary to perform at least some level of post-construction monitoring at most wind sites. Exceptions may include 1) those that are near other wind sites that have already been subject to acceptable post-construction monitoring and the results can reasonably be extrapolated to the new area of interest, and 2) repower projects where acceptable post-construction monitoring was conducted on the

turbines being replaced and there is no reason to expect that impacts would be anything but smaller. This post-construction data serves the interest of building a broader base of understanding about the nature of wind energy's impacts on avian and bat species. In the future as understanding of the interaction between birds and wind turbines grows, the ability to correlate between pre-permitting surveys and post-construction mortality rates should greatly increase. In this case the need for extensive post-construction mortality monitoring will decrease and other circumstances for little or no post-construction monitoring may be identified.

It will also be critical that all pre and post-construction studies be made publicly available. Ideally all information including the raw data would be deposited on some state-wide or national database. The way in which such a database is organized is less important than the fact that survey methods offer some level of comparability and that the data are easily accessible.

The duration of post-construction monitoring should be tied to the level of risk determined by preconstruction surveys or nearby post-construction monitoring. For example, where pre-construction surveys at the site show a high potential for impacts and acceptable post-construction data is not available for the area, two years of initial study may be necessary if the first year's results identify significant concerns.

Regardless, post-construction monitoring beyond two years at most sites should not be the responsibility of the wind developer. At that point sufficient data should be available to determine the nature of any significant impacts as they relate to CEQA and any additional money spent by a wind developer will most likely be better used for mitigation measures if impacts are determined to be significant. An alternative to extended formal monitoring is to use a mandatory incidental reporting system, through which all bird and bat carcasses found by wind project operators are recorded and reported for the life of the project. Such an incidental monitoring system would identify any significant or unusual mortality events.

In situations in which additional public or private funding is procured for continued formal mortality monitoring, the guidelines should seek to offer some guidance under which these conditions will be granted. There is no credible situation in which a project owner or operator should not give some level of site access for mortality studies. However, the site owner or operator should have a significant level of control over the study parameters.

Bat/Wind Turbine Interactions

The vast amount of unanswered questions regarding bat interactions with wind turbines should cause us to focus primarily on research to better understand the nature of these interactions. During the workshop, we learned about examples of such research, such as the work being done by Bat Conservation International (through the Bat Wind Energy Cooperative) at the Casselman and Hoosac sites in Pennsylvania and Massachusetts. That

research, which has been funded by a combination of public and private funding, maybe a model for similar research in California into pre-construction bat risk analysis. In sites where impacts are known to occur, more time should be spent to understand how these populations interact with the turbines and also what mitigation measure may effectively reduce bat mortality.

In the guidelines we should be focusing primarily on identifying bat habitat in or surrounding potential wind sites that would warrant the use of acoustic monitoring in pre-construction studies. In the initial iteration of the guidelines, bat monitoring should seek to rule out high risk sites with substantial bat activity. It will also be important to see how effectively these preconstruction studies predict actual mortality when sites are built. As more is understood about the nature of bird and bat interactions additional study methods may be put to use or other preliminary triggers may be used to determine potential high risk sites requiring bat monitoring.