La Purisima Audubon Society

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Serving the Lompoc, Santa Maria, and Santa Ynez Valleys

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August 9, 2007

Mr. John Day
Santa Barbara County P&D
Energy Division
123 E. Anapamu St.
Santa Barbara, CA 93101

Re: Lompoc Wind Energy Project DEIR

Dear John:

The La Purisima Audubon Society is a California non-profit 501(c)(3) corporation. Our mission is to engage in projects relative to conserving and restoring natural ecosystems, interact with other organizations with similar concerns, and provide educational opportunities to the local community to increase their awareness, appreciation, and involvement in their environment.

The Santa Barbara Audubon Society is a California non-profit 501(c)(3) corporation. The Santa Barbara Audubon Society educates members of our community about birds and their habitats, advocates responsible legislation and public policies which help preserve our natural resources, and administers science-based projects using birds as indicators of environmental health.

Los Angeles Audubon is a California non-profit 501(c)(3) corporation established in 1911. The mission of Los Angeles Audubon is to promote the enjoyment and protection of birds and other wildlife through recreation, education, conservation and restoration. Los Angeles Audubon supports renewable energy provided that decisions about the placement and operation of the infrastructure are based on sound science to substantially limit adverse impacts on birds, wildlife and their habitat. Since 2003, we have been working to resolve the conflicts between wind energy and birds, including a year of effort with the California Energy Commission and California Department of Fish & Game to create guidelines in California to site wind projects to reduce the impacts on birds and bats.

"While the actual number of birds killed by wind turbines is unknown, estimates have been made in the range of 30,000 to 60,000 per year at the current level of wind development. The wind industry is prepared to increase the number of turbines 30 fold over the next 20 years, in order to fulfill the President's request that renewable energy projects supply 20% of the nation's energy needs by 2030. At the current estimated mortality rate, the wind industry will be killing 900,000 to 1.8 million birds per year. While this number is a relatively small percentage of the total number of birds estimated to live in North America, many of the bird species being killed are already declining for other reasons, and losses of more than a million birds per year would exacerbate these unexplained declines. Data from the FWS Migratory Bird Management and Breeding Bird Survey by the US Geological Service indicate that at least 223 species of our native bird species are in significant decline (about 1/4 of all species in US). The mortality at wind farms is significant, because many of the species most impacted are already in decline and all sources of mortality contribute to the continuing decline." [1]

National Audubon analyzed Christmas Bird Counts and citizen science bird population data from 1967 for release in a 2007 report titled Common Birds in Decline. The report found that "populations of some common birds nosedived over the past forty years, with several down nearly 80 percent".[2] "In California, Northern Pintail, Horned Lark, and Loggerhead Shrike topped the list with declines between 96 and 75%, mirroring national trends in the same species".[3] The dramatic national declines are attributed to habitat loss and fragmentation. Both Horned Lark and Loggerhead Shrike are recorded on project site, as are other declining species.

Our comments on the DEIR follow:

1. The pre-construction risk assessment of birds and bats is inadequate.

- **26 days of surveys for birds over a five year period is inadequate**

  In 3.5.14 Wildlife and Bird Surveys the DEIR reports "wildlife surveys of the WTG corridors, including surveys for birds, were conducted on 6 separate dates in the spring, summer, and fall of 2002, and on 7 separate dates in the spring and summer of 2005.[4] Additionally, "Additional reconnaissance-level surveys were conducted on 4 separate dates in September 2006," also "Olson (2007) conducted avian point count surveys during three, 3-day periods in December 2006 at 18 potential WTG sites."[5] This totals 26 days of survey over a five year period.

  California Energy Commission and California Fish & Game draft guidelines recommend that developer "Conduct BUCs (Bird Use Counts) for **30 minutes once every week** (emphasis added) during the seasons of interest, which for most projects in California includes all four seasons. Sequence observation times to cover most daylight hours (for example, alternate each week with morning and afternoon surveys) and different weather conditions, such as windy days."[6]

  Following these minimum guidelines over only a one year period would have produced 52 days of survey, twice the level of effort presented by the lead agency in the DEIR.

  The DEIR fails to disclose the scientific basis for lead agency's decision to conduct or allow such minimal surveys. The failure to disclose this basis is an omission in the DEIR.

- **The surveys are inadequate as they did not include wildlife professionals**

  "Pre-development evaluations should be conducted by a team that includes Federal and/or State agency wildlife professionals with no vested interest (e.g., monetary or personal business gain) in the sites selected."[7]

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[1] Testimony of Donald Michael Fry, PhD, Director, Pesticides and Birds Program, American Bird Conservancy, The House Subcommittee on Fisheries, Wildlife and Oceans Oversight Hearing on: "Gone with the Wind: Impacts of Wind Turbines on Birds and Bats," May 1, 2007, Room 1324 Longworth House Office Building.
[2] National Audubon Society, Common Birds in Decline, July, 2007
[3] Audubon California, Common Birds in Decline, July, 2007
[4] DEIR, 3.5.-14
[5] Ibid
[6] California Energy Commission and California Department of Fish & Game, California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development, Committee Draft Report, July 2007, CEC-700-2007-008-CTD, p.45, beginning line 1478
[7] U.S. Fish & Wildlife Service, Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines memorandum, May, 2003, p.2

The DEIR fails to disclose lead agency's basis for not including wildlife professionals from state and federal agencies with no vested interest in the site selection, or for not including wildlife professionals from state and federal agencies in the surveys and study design.

- **The scope of the surveys is inadequate to assess the project site for risk to birds**

  The DEIR states "Most of the 2005 surveys were conducted in the afternoon, but some took place in the mornings." Bird activity is lowest in the afternoon, and highest in the mornings despite coastal fog that might limit visibility of observers but not the activity nor song of birds. The DEIR fails to disclose why lead agency chose not to identify bird species by song and only by sight.

  The DEIR fails to disclose how the dates of the surveys were chosen, nor whether "observers" were also conducting plant surveys (especially in 2002) while conducting bird surveys. This could effect observer bias and call into question the adequacy of those surveys, reducing even further the level of effort by developer.

  The DEIR fails to disclose if habitat was prioritized for potential for the presence of more populous and diverse populations of birds for the bird surveys. Although the various habitat on the site is described in the DEIR along with some species of birds that were observed in that habitat, the habitat types more productive for birds such as riparian habitat or habitat with water sources or grassland were given no priority in the avian surveys.

  Additionally, birds in the most productive habitats – coastal sage scrub, riparian habitats, or oak woodland - were surveyed from afar and only during flight, excluding terrestrial species or species that prefer the insides of bushes and vegetation rather than the outside.

- **The pre-construction surveys are inadequate to site the turbines to reduce the impacts on birds and bats**

  The DEIR is inadequate in discussion of importance of siting to minimize impacts on birds and bats, and omits discussion of wildlife and landscape issues in determining turbine placement.

  "Assessing the impacts of turbine siting and determining appropriate turbine placement requires a thorough understanding of the distribution and abundance of birds and bats at a proposed site and site-specific knowledge of how wildlife interacts with landscape features at the site. Orloff and Flannery (1992 and 1996), Smallwood and Thelander (2004 and 2005), and Smallwood and Neher (2004) all estimated associations between bird fatalities and attributes of wind turbine locations relative to topography and other factors. They concluded that wind turbine siting contributes substantially to bird mortality and that careful siting of new wind turbines could substantially reduce fatalities;"[8]

- **The pre-construction surveys are inadequate to compare with post-construction monitoring.**

  Lead agency wishes to mitigate for unavoidable impacts with post-construction monitoring, but the pre-construction data is scientifically inadequate to do so. These pre-construction surveys do not rise to the level of BACI (Before – After, Control – Impacts) study methodology recommended by the National Wind Coordinating Committee for monitoring wind project sites.

  "The BACI design is the most reliable design for sustaining confidence in scientific conclusions. Data should be collected for two or more time periods before and again two or more time periods after construction of the wind plant on both the assessment area (wind plant) and multiple reference areas."[9]

  If lead agency plans a monitoring survey of 2 years of weekly surveys as suggested in **Mitigation Measure BIO-3: Avian Monitoring** later in the document, then pre-construction efforts should match this effort for scientific comparison.

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[8] California Energy Commission and California Department of Fish & Game, California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development, Committee Draft Report, July 2007, CEC-700-2007-008-CTD, p.64, beginning line 2306

[9] National Wind Coordinating Committee, Studying Wind Energy/Bird Interactions: A Guidance Document, Prepared for the Avian Subcommittee and NWCC, December 1999

Surveys were conducted in 2002 and then again 2005, and 2006. This five year span would have been more than enough time to collect data from adequate surveys by avian biologists and wildlife professionals.

- **The surveys are inconsistent, not comparable, are conducted with different methodologies that are not compatible, and cannot serve as good scientific baseline comparisons for post-construction monitoring.**

  The DEIR itself reports this discrepancy. "These surveys were performed by CH2M HILL biologists using a methodology similar to that used in 2002 and 2005."[10]

  "Similar" methodology is not consistent with good, scientific data for comparison.

- **The surveys fail to assess nocturnal movements of birds and bats.**

  There are no nocturnal studies or assessments of these animals even though they are both recognized as potentially on site.

  "Most songbirds, waterfowl, shorebirds, herons, and egrets migrate at night (Kerlinger and Moore, 1989). Nocturnal migrants generally take off after sunset, ascend to their cruising altitude between 300 and 2,000 feet (90–610 meters), and return to land before sunrise (Kerlinger, 1995). For most of their flight, songbirds and other nocturnal migrants are above the reach of wind turbines, but **they pass through the altitudinal range of wind turbines during ascents and descents** and may also fly closer to the ground during inclement weather or when negotiating mountain passes (Able, 1970; Richardson, 2000).

  Recent published scientific reports indicate that greater than 10% of nocturnal migrating songbirds migrating over ridges fly at elevations putting them within the area of rotating turbines (Mabee at al. 2006, WILDLIFE SOCIETY BULLETIN 34(3):682–690). It is not known whether these birds are at risk of being struck by turbines blades, whether they can adequately avoid them, and whether inclement weather might increase the collision risk, as it does with communications towers."[11]

  While most turbines are placed in open grazed habitat, the turbines to be placed at La Tinta Hill and Sudden Peak are of special concern due to their proximity to more productive habitat, and their elevation, and Middle, Sudden, Quarry, and Signorelli ridges. These sites require a more thorough investigation of the presence of birds, especially nocturnal migrating birds in fall and spring migration periods.

  "Since most movement occurs early in the evening, bird collisions are more likely to occur during the first two to three hours after sunset (18:00 to 20:00)."[12]

  Even if no migratory songbirds were seen in the afternoons or mornings on site by observers in the 20 days of surveys, these birds may pass through the project site after sundown and prior to sunrise.

  The site is on the Pacific Flyway, a migratory pathway in California.

  There were no nocturnal assessments of risk to migratory birds, only point counts in the afternoon for birds that were noticed to be on the site during brief surveys, as little as one day per migratory period. Migratory birds travel in unpredictable "pushes" of great density, and may appear on site on any day during peak migratory periods (generally March 1 through May 30 and August 1 through October 30), and not on the one or two days during that peak migratory period that proponent's observers may have chosen to have been there. A more robust search is certainly required to disclose the risks to migratory songbirds. The intention of such an inadequate search for migratory birds seems to be to avoid or omit disclosure of those risks.

2. The DIER does not adequately assess the impacts to species of bats

[10] DEIR, 3.5-3

[11] California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development, California Energy Commission and California Department of Fish & Game, Committee Draft Report, July 2007, CEC-700-2007-008-CTD, p. 51, beginning line 1769.

[12] Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Fall 1982 (McCrary, et al (1982), p.65.

The DEIR states "The actual number of fatalities at the Project could be lower or higher depending on use of the area, particularly by migrating bats.[13]

This is an extremely general statement, and admits that the use of the area by migrating bats has not been studied by lead agency, an important inadequacy in the DEIR.

This admission in the DEIR combined with the disclosure that up to six species of bats might be expected to be on the site, or are present near the site, suggests that a nocturnal study of migrating bats is more than important for this site in order to assess risk, compare pre-construction with post-construction data, to determine use by species, to evaluate mortality of species in monitoring, and to disclose the true impacts that the project may have on bats.

The DEIR omits a discussion of the basis for making the decision not to study migrating bats with nocturnal assessments, or how they could arrive at a scientific estimation of mortality of bats without conducing nocturnal assessment, or how they plan to compare pre-construction studies with post-construction studies of migrating bats without conducting nocturnal assessments, nor what mitigation including compensation would be appropriate for fatalities of bats at and above the level predicted.

3. The DIER is inadequate in assessing the impacts to raptors

We disagree with the following conclusion in the DEIR.

"Given the results of surveys for this Project and a review of the literature for newer projects with designs applicable to the Project, estimates of raptor mortality loss are expected to be low. Avian mortality studies at the Buffalo Ridge, Nine Canyon, and Vansycle wind energy generation sites found that raptor mortalities made up less than 2 percent of the bird species recovered during carcass removal (Erickson et al., 2000, Erickson et al., 2003; Johnson et al., 2000)."[14]

Comparisons of raptor mortality in other parts of the country with very different habitat are not adequate. California's coastal habitat is unique. Studies at Altamont Wind Energy Resource Area or at Solano Wind Resource Area are more appropriate, and higher in fatalities, than the wind energy sites compared above. Publishing the conclusion above in the DEIR may be an attempt to avoid disclosure of the true risks of the project by diluting the disclosure of risk with citations from projects outside of California.

"Data on wildlife use and mortality collected at one wind energy facility are not necessarily applicable to others; each site poses its own set of possibilities for negative effects on wildlife."[15]

Lead agency should make every effort to assess the risk to raptors by adequate pre-construction surveys, especially in winter, rather than literature citations from projects outside California.

- **The DEIR is inadequate and possibly intentionally deceptive by including possibly unproven claims about risk factors of various groups of birds to wind energy facilities.**

Impact BIO-10: Avian and Bat Collisions with WTGs includes a section of "Factors that affect the risk of the various groups (of birds) to wind energy facilities, particularly WTGs"

Some of these claims are controversial and have not been verified by controlled scientific studies conducted, published, and peer reviewed by other scientists.

Lead agency should not omit references and scientific sources for each of these controversial claims nor should a DEIR be a forum for publication of controversial claims by lead agency, if unsubstantiated or not backed by science.

For example:

[13] Ibid, 3.5-53
[14] Ibid, 3.5-52
[15] U.S. Fish & Wildlife Service, Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines memorandum, May, 2003

"WTG size and rotor height – Older style WTGs were shorter with rotors that were lower to the ground, which brought a greater percentage of raptors foraging in the area into the same height as the rotors. Larger, modern WTGs are taller with rotors higher off the ground; thus, foraging raptors are less likely to collide with rotors." [16]

This claim omits the increased hazard to migratory songbirds and passerines of higher turbines.

"Rotor blade tip speed and rotational speed – Newer WTGs with slower speeds appear to be associated with lower avian fatality rates."[17]

This claim has not been proven through scientific research, and, in fact, blade tips may be faster.

"Overall number of WTGs and design of placement – The modern, larger WTGs result in fewer WTGs overall, which reduces the number of potential bird collisions with WTGs. Because there are fewer WTGs, they are spaced at wider intervals, further reducing the number of potential collisions."[18]

This claim has not been proven, and in fact, may increase the number of potential bird collisions due to size and placement.

5. The DEIR does not adequately describe or mitigate for the impacts of loss of habitat due to construction and installation

"As shown in Table 2-5, approximately 54 acres would be temporarily disturbed, and approximately 34 acres would be permanently disturbed. Although the exact placement of WTGs and power poles is not known, as shown on Figures 3.5-2 and 3.5-3, most of the area that would be disturbed is composed of annual grasslands; therefore, most impacts would occur to this vegetation community, although others could be affected as well, depending on the ultimate placement of facilities." [19]

This is a very general statement and does not characterize or predict the impacts of the project on habitat other than annual grassland, not even within a scientifically predictive range.

Developer could place the turbines almost anywhere and be within this inadequate prediction.

Recent estimates and aerial views of habitat loss to construction of wind turbine sites show that up to four acres of habitat is damaged or lost per turbine installed.[20] With 80 turbines, that potential amounts to an estimated loss of ten times the predictions of the DEIR, or 240 acres, just for the installation of the turbines without considering the habitat lost to construction of roads, power lines, transmission lines or other components of the project.

Additionally, the DEIR is intentionally vague about placement of the turbines and about the habitat that may be disturbed. The purpose of a DEIR is to disclose potential impacts to the environment to the best ability of the lead agency. If the agency is unsure of those impacts, or unsure of the placement of the project, it is unfair to the public and possibly a violation of CEQA to underestimate those impacts and offer vague and general disclaimers as to the real size and impacts of the project.

Additionally, there is no provision in the DEIR for mitigation in the probable event that more than 54 acres would be temporarily disturbed, or more than 34 acres would be permanently disturbed.

6. Mitigation Measure BIO-3:Avian Monitoring is inadequate

- **Lead agency has not established mitigation for discovery of sensitive or endangered species on site, raptor nests, increased migratory movements or fallouts, or other discoveries that may be made during Avian Monitoring.**

7. Mitigation Measure BIO-4: Avian and Bat Mortality Study is inadequate.

- **Lead agency's reliance on carcass searches and point counts is inadequate to assess mortality of birds and bats**

[16] DEIR, 3.5-51
[17] Ibid
[18] Ibid
[19] Ibid, 3.5-42
[20] Boone, Dan, "Using GIS Technology to Evaluate Forest Habitat and Public Land Impacts of Wind Energy Development, Wildlife & Wind Energy Conference, Kutztown University, Pennsylvania, December 2, 2006

"The study shall follow the guidelines developed by the National Wind Coordinating Committee (Anderson et al., 1999) and include periodic (at least biweekly) searches for bird and bat carcasses at and near WTGs, power poles, and meteorological towers."[21]

These guidelines were published in 1999, and are outdated.

In the DEIR and in the mortality study lead agency fails to discuss or has omitted 1) current technologies available for monitoring fatalities of groups of birds such as raptors, migratory birds, and bats. These technologies include mobile radar, acoustic monitoring, and other affordable technologies currently available for monitoring avian mortality (see below); 2) the relevance of avian monitoring to and the importance of adequate pre-construction studies for comparison to mortality monitoring.

Additional affordable technologies are available that can assure lead agency's compliance with its own county statutes in addition to carcass searches, but are not discussed. Since wind energy developer is from Spain, that company should be familiar with monitoring advancements in that country. The U.S. especially California, and especially Santa Barbara County, in complying with its own statues and guidelines, should employ the most up to date methods available for monitoring fatalities or disclose the scientific process that has eliminated them.

Additionally, preventive modern technology is not discussed. Real-time radar is currently operational in Spain, the country of project developer, to prevent collision mortality to migrating birds of prey. Acoustic monitoring is available. Marine radar is available and in fact can show if migratory birds are avoiding turbines.

Lead agency should disclose the basis for rejecting these feasible monitoring technologies.

- Lead agency technical advisory committee is inadequate.

There are no powers, triggers, nor process outlined for this body to take mitigation or adaptive management actions. Lead agency has the only vote that can determine action, and no time frame is suggested for trigger, response or mitigation to "excessive mortality" at a particular turbine.

There is no discussion of prevention of "excessive mortality"

"The committee shall be composed of County staff; the biologist in charge of implementing the mortality study; a representative of the Project owner or operator; and other experts the County deems necessary, which could include representatives of state and federal agencies."[22]

This technical advisory committee is inadequate and does not include an independent biologist that is free of financial influence of the lead agency or the developer, nor does it guarantee the participation of state and federal agency wildlife professionals.

The deliberations of this body and the data reviewed therein may not be publicly available for review and does not contribute to the overall body of knowledge on wind development in California. Full disclosure serves the public interest, or lead agency should discuss why information and data should be privileged.

Lead agency should disclose any confidentiality agreements that have been entered into between developer and biologists and environmental consultants, and between lead agency and biologists or environmental consultants.

8. Mitigation Measure BIO-5: Additional Measures to Protect Birds and Bats is inadequate

- The DEIR is inadequate in defining "excessive mortality" by comparison of project to other projects.

"The annual death rate attributable to the Project for all birds combined, or raptors considered separately, or bats, is more than twice the average rate documented for other comparable wind projects. (The mortality rate shall be expressed as death per megawatt (MW) of WTG nameplate electrical generation capacity, adjusted for searcher efficiency and scavenger removal. The average rate shall be based on projects in California for which data is available at the time an assessment for this Project is conducted. *Comparable wind project* means a project with

[21] DEIR, 3.5-73
[22] Ibid, 3.5-75

over 50 MW generating capacity, using modern WTGs with a nameplate electrical generation capacity greater than 1 MW, operating at approximately 15 to 25 RPM, with total WTG height greater than approximately 300 feet.)"[23]

For purposes of monitoring and mitigation, "excessive mortality" for the project should be defined in comparison to the mortality rates of comparable turbines, not projects.

This will allow lead agency to take operational adaptive management or other mitigation measures such as seasonal shutdown or removal of turbines that offend with an excessive mortality rate, rather than conceal the offending turbine within an average of the site. There are no other adaptive management or mitigation measures for offending turbines other than shutdowns or removal.

9. The DEIR is inadequate in failing to consider "cumulative impacts" of wind energy on populations of birds.

10. The DEIR fails to provide for adequate mitigation for impact BIO-10 which is considered significant and unavoidable.

We urge the County of Santa Barbara as lead agency in this DEIR to require the wind developer of the Lompoc Wind Project to go to the fullest extent of available science and technology to understand, disclose, and minimize the considerable impacts on birds and bats of this project as presented.

Thank you for the opportunity to comment on this project.

Sincerely,

Tamarah Taaffe
Treasurer
La Purisima Audubon Society

Stephen J. Ferry
Conservation Chair
Santa Barbara Audubon Society

Garry George
Executive Director
Los Angeles Audubon Society

[23] Ibid