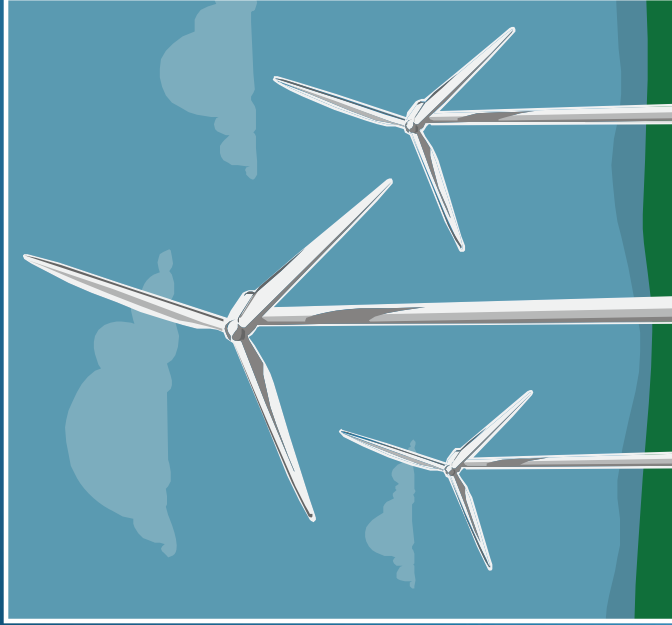


DOCKETED	
Docket Number:	23-OPT-01
Project Title:	Fountain Wind Project
TN #:	248314
Document Title:	scoping report part3
Description:	N/A
Filer:	Caitlin Barns
Organization:	Stantec Consulting Services, Inc.
Submitter Role:	Applicant Consultant
Submission Date:	1/4/2023 11:59:01 AM
Docketed Date:	1/4/2023



Wind Turbines & Property Value

A presentation by
Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC
President/Sr. Appraiser – Appraisal Group One

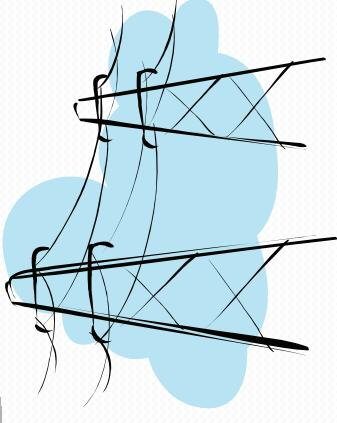


Focus on Value

- PERCEPTION = VALUE
 - The key to understanding real estate value is to understand it is based on perception.
 - Perception drives the buying decision.
 - E.g. perceived enjoyment of home.
 - E.g. perceived income stream of investment.
 - Perception need not be based on a proven, scientific fact. (e.g. the haunted house or electric power lines)
- When the buyer acts on this perception through a buying action you have established value and the effects of this perception.



E.g. Perception of Electric Transmission Lines



Perception

- They cause health problems especially cancer.

Fact

- Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
- Sometimes, depending on humidity, power and distance.
- True both near and far.
- They are noisy.
- They are unsightly, and ruin the view shed.

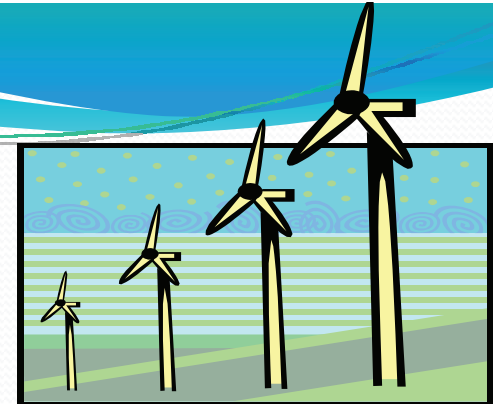
Perception of Wind Turbines

Perception

- They cause health problems though noise and deep ultrasonic sound waves, sleep deprivation.
- They are noisy.
- They cause light flicker.
- They are unsightly, and ruin view shed.

Fact

- Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
- True, depending on wind, size, age and distance.
- True depending on location and distance.
- True both near and far.





What Drives Perception?

- Media
 - Printed media
 - Electronic media
 - Internet

To measure this perception of media
we conducted a Literature Review

Literature Review

- Health Issues
 - Articles found on health disorders including:
 - Sleep deprivation
 - Headaches
 - Dizziness
 - Anxiety
 - Depression
 - Vibroacoustic Disease (VAD) & Wind Tower Syndrome
 - WHO Community Noise Paper of 1995 counters claims.
 - Doesn't affect everyone.
 - Wind industry has counter claims stating “no health impact.”
 - Similar to the EMF issue relating to power lines.





Measuring Perception

- To measure the impact of this perception we did two things:
- Conducted a **Realtor Survey** of Realtors who worked in a wind turbine area.
- Conducted an **Impact Study** using sales of properties impacted by wind turbines compared to those that were not.

Realtor Survey



Purpose: learn from those in the trenches of buying and selling.

Focus: residential land use, both vacant and improved.

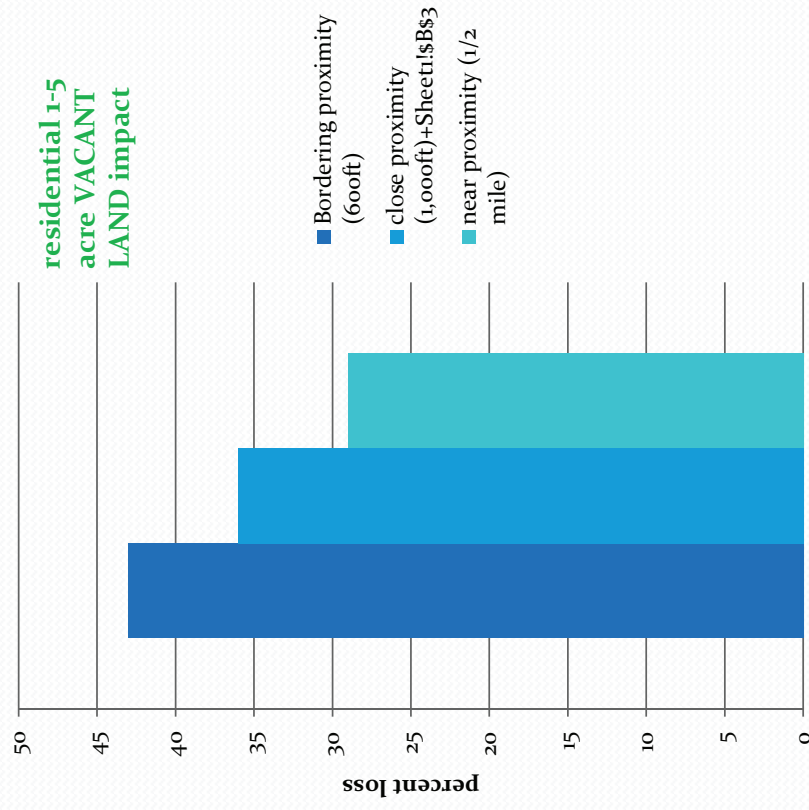
Visual field proximity: 3 different levels...

- 600ft from turbine (border)
- 1,000ft (close)
- 1½ mile (2,640ft) (near)

- Survey utilized graphics and pictures to standardize the concept being portrayed.
- Survey used Realtors that were in a wind turbine area.
 - Fond du Lac County
 - Northeast Dodge County
- Surveys were given in person, on-site, verified with date, person's name and contact.

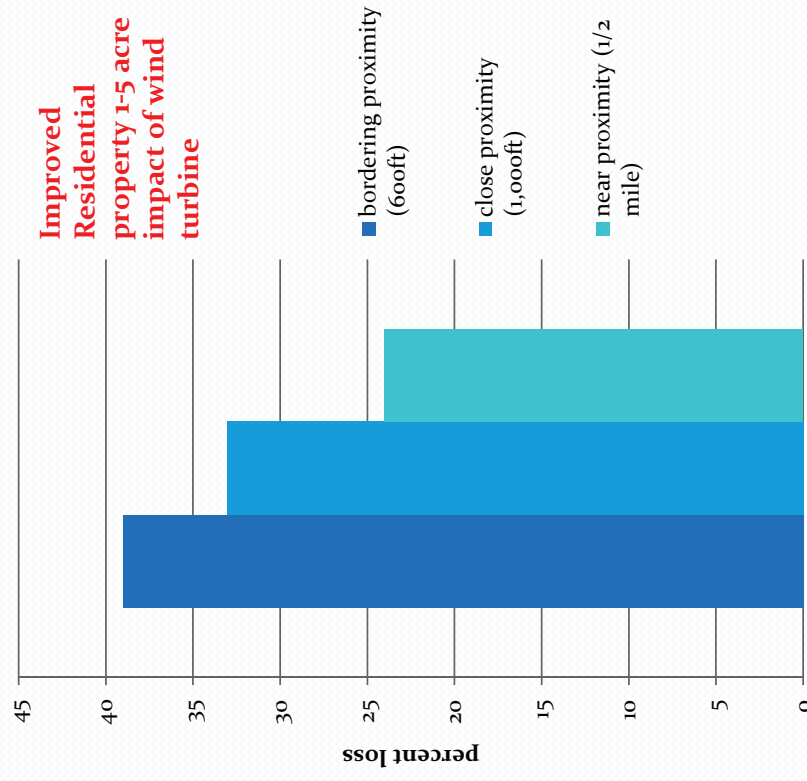
Realtor Survey results . . .

- Question to impact of wind turbine to vacant land:
 - 82% negative if border
 - Loss estimated at -43%
- 69% negative if close
 - Loss estimated at -36%
- 59% negative if near
 - Loss estimate at -29%



Realtor Survey results . . .

- Question to impact of wind turbine to improved property:
 - 91% negative if border
 - Loss estimated at -39%
 - 86% negative if close
 - Loss estimated at -33%
 - 60% negative if near
 - Loss estimate at -24%



Realtor Survey results . . .



Hobby Farm

- Bordering proximity (600ft)
 - 70% said negative impact
 - 23% said no impact
- Close proximity (1,000ft)
 - 47% said negative impact
 - 47% said no impact
- Near proximity (2,640ft or half mile)
 - 44% said negative impact
 - 47% said no impact

Position of Turbines

- 83% said the impact was negative if the turbines are in the front yard of a 1-5 acre residential parcel.
- 71% said the impact was negative if the turbines were located in the back yard of a 1-5 acre residential parcel.

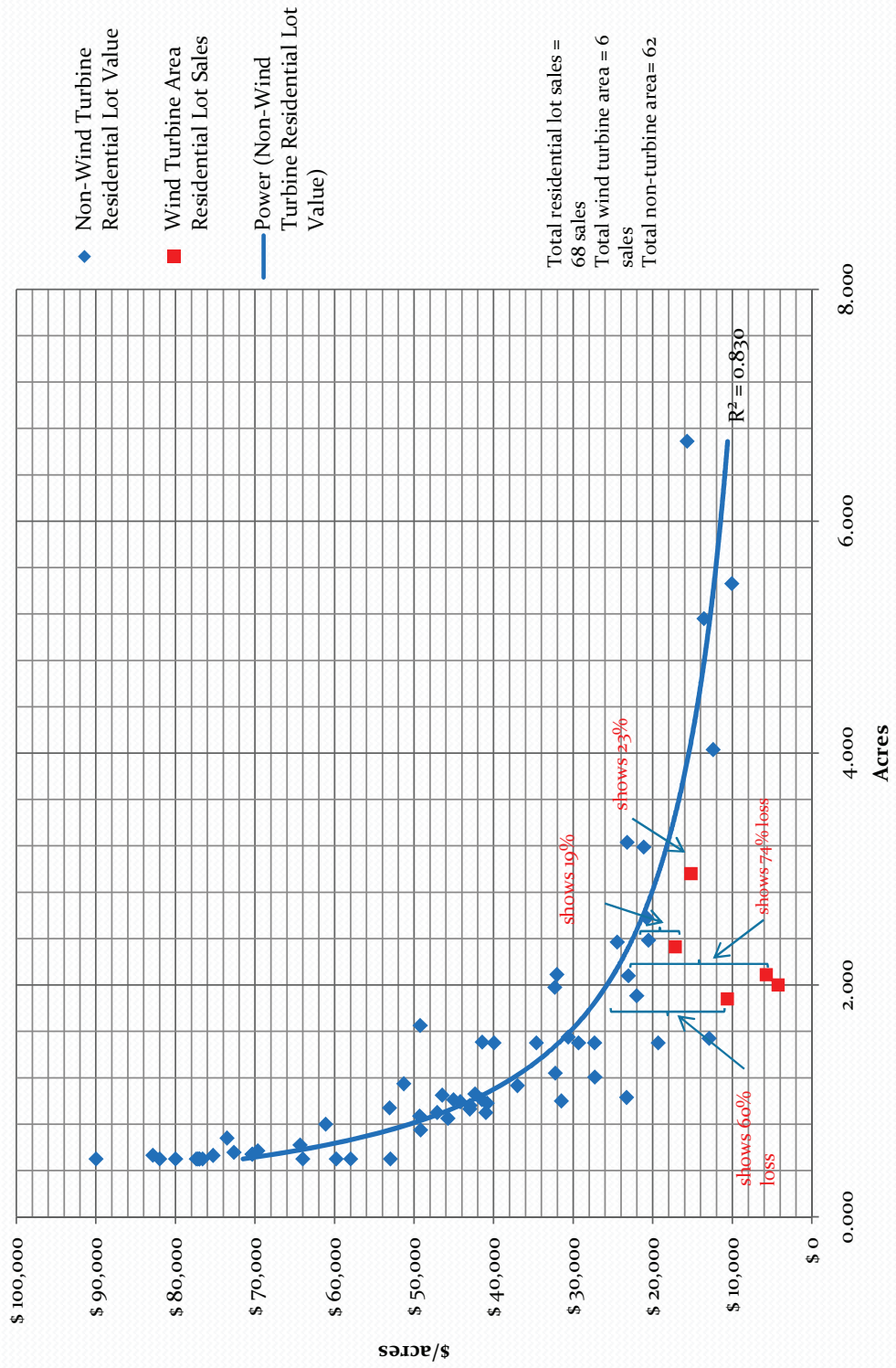


Impact Studies

Checking perception with buying action

WE ENERGIES - BLUE SKY GREEN FIELD WIND FARM

1 acre to 8 acre residential land sales -- all sales included

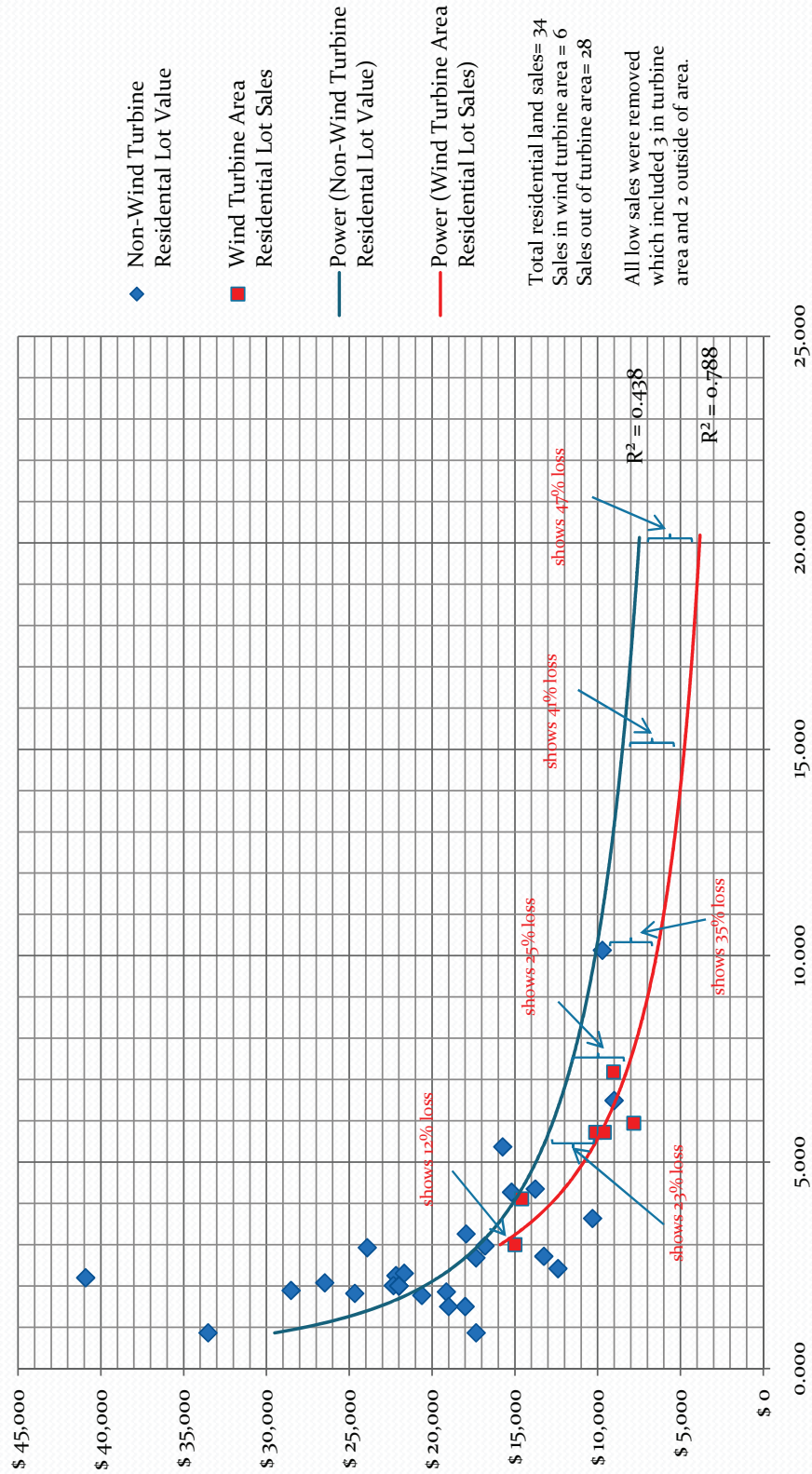


A decorative graphic on the left side of the slide, featuring a vertical blue gradient bar on the far left. To its right, several wavy, horizontal lines in various shades of blue and teal sweep across the page, creating a sense of movement and depth.

Blue Sky Green Field results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -19% to -40%.
- This loss range corresponds with the Realtor survey.

INVENERGY - FORWARD WIND FARM 1 acre to 20 acre residential lot sales -- low sales removed





Forward Wind Farm results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -12% to -30%.
- This loss range corresponds with the Realtor survey.

Conclusion of Perception of Wind Turbines Impact to Property Value

1. Media has reported on negative health issues and value issues influencing a negative perception.
2. Realtor survey indicated that these perceptions are real in the market.
3. Impact studies suggest the values are substantially negatively impacted in the range of -12% to -40%.
4. The further away, the less the impact.



1/24/19

Mr. Salazar, I am writing in response to the notice of tonight's public scoping meeting about the Fountain Wind Project. I am a landowner with property close to the project (parcel 027-140-024). Several of my relatives also own adjoining parcels of land. Unfortunately, I am unable to attend the meeting. When I heard about the project last February, I spoke to Bill Walker and then sent him a list of my concerns about the project, environmental and otherwise. Judging by the newest project maps, some of my comments were listened to (there is no longer a turbine situated directly uphill of me) for which I am grateful. Since I don't know whether you received a copy of my email to Mr. Walker, I am sending my comments and questions to you now so they can be taken into consideration when you prepare the EIR.

1. I hold riparian water rights on water from Buffum Creek, as do the other owners of what was originally a 160-acre homestead along Buffum Road. These rights date back more than a century. Can you guarantee that the availability and quality of our drinking water will not be impacted, either during construction or during continuing operations in the future? Are you planning to fence off the area where we take water out of the creek and pipe it down onto our lands, and if so, what is your plan for providing us with access to the water?
2. Endangered yew trees grow along some parts of Hatchet Creek, including the area between Highway 299 and the old PG&E drop box. This is not on my own land, but I hope you will be careful to preserve these trees.
3. The wildlife population is still recovering from the 1992 Fountain Fire. In the past 26 years we have planted many trees, but the trees are still maturing and the wildlife has yet to fully recover. Construction projects, noise, and permanent fencing will add more stress to the already-stressed population. I am concerned about the bats and birds which may be killed by the turbines. Based on my own observations, I would say we have only half the birds we had before the fire, with less diversity of species. The bat population was decimated by mosquito abatement projects dating as far back as the 1960s, and fell even further because of the fire. I would say there are 75 to 80 percent fewer bats now than we had fifty years ago. Please do whatever is in your power to reduce the bat and bird kills from the turbines. Otherwise we will be overrun by mosquitos and other insects.
4. Our homestead has traditionally and historically been used as a place to visit and camp in the summer. I have seen some noise level numbers, but it is hard to tell just how loud the turbines will be from our place. Can you give me any information about how far the noise carries?
5. Are you planning to keep the existing county roads open? We currently access our land via Buffum Road, with Big Bend Cutoff Road serving as a second exit in case of fire (although many cars would have a hard time traversing it undamaged). Some of the landowners would like to see the roads kept open, and some would like them to have locked gates. Either way, we need to have a way to access our properties. Thank you for inviting public comment on this project. I have subscribed to the project's email list and look forward to a continuing dialog as your plans progress. If you can answer any of my questions, I will forward the information to my relatives who have land in the area.

Regards, Susan McVey

From: elizabeth l messick <beth.messick@gmail.com>
Sent: Tuesday, February 12, 2019 1:16 PM
To: Lio Salazar
Subject: Fountain Wind Project comments

As owner and occasional resident of the NW1/4 of the NW1/4 of section 8, Township 34N, range 1 east, M.D.M. I must comment my concerns in regards to said project.

1. EMFs effects on close residents, on independent power systems(I could pick up my own wind mill on automotive radios), etc.
2. Fire risk is high enough, we have history of fires which would take power down already, this project adds to the risk.
3. You have no idea how the land and water moves in the area, this area is well known for land shifts directly below said project.
4. There has not been an official anthropological study of proposed area, but unofficial study by PhD students showed dwellings and probable burial sites.
5. My land is used for sacred ceremonies by local Native Medicine people currently and the noise of proposed project will definitely interfere.
6. The spring that provides my water may well be effected; will they replace my water?
7. Change in traffic directly above my ranch.
8. Enough of our rural environment and culture has been taken from us over the past one hundred years, this is too much!

Thank you for your time and attention in regards to same.

Elizabeth L. Messick

2/20/19

The proposed Fountain Wind Project will have a devastating effect on wildlife and the environment not to mention diminished property values for those living in the area. I am against installing these windmills and strongly feel that alternative ways can better serve the community.

Monica Micheletti

From: Carol Miller <ranchofeliz@hotmail.com>
Sent: Monday, January 28, 2019 8:57 AM
To: liosalazar@co.shasta.ca.us; Marisa Borg; Mindy Streicher; Joy Tjaden
Subject: Windmills

Lio

From the meeting we were at last Thursday night, I take it, you only are handling environmental issues with the windmills.

So the objections I have to the windmills have to do with the windmills, but also other issues. Who will be handling those questions? Would you so kindly let me know who I speak to those about?

Here are my objections:

1. I understand that Germany own and control the windmills on Hatchet mtn. Will that be the same with the ones on Snow mtn?
2. The destruction that the windmills will do in our area will greatly affect the wildlife around us. We have CA Brown bears, deer, mountain lions, ring tailed cats, raccoons and numerous birds, especially the Canadian geese. It will affect their habitat, water supply and food.
3. We moved to Round mtn to enjoy the beautiful scenery, trees and mountains around us. What the windmills construction will do is ruin all of that. We can even see the Hatchet Mtn windmills from Round Mtn and disturbs our area of wild untouched country that we love.
3. Human water resources will be very disturbed and probably some will disappear. The Montgomery creek is used for swimming, fishing and water source. With of the disturbance of land the creek could even be contaminated with foundation chemicals. Montgomery Creek comes from Snow Mountain, and from there I believe a natural spring. Why would you want to destroy something so natural and beautiful when it could be put somewhere else. The ridge where they want to put the windmills would completely destroy the town of Round Mountain. Many trees would be cut down, new road put in. It would look awful!
4. The property values would decrease, too. We don't intend to sell, we've lived in Round Mtn for nearly 40 years, raised our kids here, we all have enjoyed the country living, quiet, pure and clean and now our grandchildren. And hope to die here undisturbed by civilization. We want to leave the property to our family, as an heritage when we are no longer here.
5. There are studies that have been done on the dangers of Windmills in other areas, especially Canada. I will try to email them to you. Health issues, animal issues, birds issues, etc. And as one man mentioned, the windmills in Tehachpi, CA that the broken windmills are left in a mess on the ground. Germany probably doesn't care what happens to their junk.

There is much more I could say about this windmill idea.... the inconsistency of the reports of how much land used, feet from home dwelling, noise level, remember these windmills will be twice as big as the ones on Hatchet Mountain. The road to build to get the windmills up there will be big, wide and tear out a lot of trees.

Try to remember if you lived here what you would like. I know someone is going to make a lot of money if this goes through, but life is more about money. And it is known that by the time the windmills pay for themselves, they will be old, broken and who will fix them or take the unsightly mess away?

Thank you for considering my objections,
Carol Miller

Sent from [Outlook](#)

2/14/19

I have a home in the historic community of Moosecamp in eastern Shasta County. Moosecamp was established in the 1930s and has been an active part of this area ever since.

As currently proposed there will be substantial visual, noise, historical and property value impact to my home and to the Moosecamp community. Substantial mitigations need to be studied and incorporated into this plan,

In the area surrounding Moosecamp the turbines are both too dense and too close to this residential community. They will result in severe visual impact and should be either eliminated or the setbacks should be dramatically increased for proper mitigation. The potential impact of "flicker" should be fully studied (video link: <https://youtu.be/Mble0iUtelQ>). Turbine placement should be limited to the north in order to mitigate this flicker impact or, if turbines are placed to the south, the setbacks should be increased. Turbines should not be placed to the east or west of Moosecamp.

The distance to the existing turbines on Hatchet Ridge has been acceptable but as proposed the distance between the proposed turbines and my home and the Moosecamp community would create negative impacts, a visual nuisance and a taking of both historical and economic property values.

Doug Murphy

2/10/2019

I have owned a home in Moose Camp since 1999. My grandparents have lived here since 1967. While I believe in alternative energy sources, I disagree with the size of this project. It is too close to residential areas. The shadows, the noise, the loss of vegetation and wildlife all are negative factors for the size of this wind farm. I also am not in favor of the main road between the two substations being on the edge of our private property. The traffic and visual impact will diminish our property values, etc. Thank you for your consideration.

Elizabeth Murphy

2/11/2019

My family owns a home in Montgomery Creek off Moosecamp Road and I'm seriously concerned that the addition of 100 wind turbines completely surrounding their home will ruin the tranquility of the area. The turbines will increase traffic in the region, cut down much needed forest which have taken years to recover from the fire, and negatively affect the wildlife in the region. Even now that I live in San Francisco, I continue to visit many times a year because there isn't a more peaceful and beautiful place to vacation in California. I will be heartbroken and devastated if the turbines ruin our view, hurt our precious wildlife, cause forests to be cut down, and cast shadows on our home. I will be forced to find a new place to vacation. After working for the government and at an environmental nonprofit, I understand how valuable renewable energy is. That said, we have to select the locations of our renewable energy sources wisely so to not negatively affect residents in the region. I recommend building turbines NORTH of 299 and not to the south. There are already wind turbines north of 299 and they do not currently affect residents south of 299.

Thank you. – Hannah Murphy

2/10/2019

Please consider putting the windmills farther from Moose Camp. I am a big supporter of renewable energy but I was hoping we could put this windmills in a more remote location that will not disturb my family's peaceful home in the mountains. My Great Great Grandmother, Regina Swarts was the first to have a home in the area and Moose Camp has been a wonderful place for my family and friends to gather and enjoy the serenity of the mountains.

Morgan Murphy

From: Spencer Murphy
Sent: Sunday, February 10, 2019 11:21 AM
To: Lio Salazar
Subject: Re: Fountain Wind Project

My address is:

19607 Sycamore Road
Montgomery Creek, Ca 95065

I will gladly come in and speak with you or the committee on the numerous verifiable health hazards of shadow flicker, though I am sure you are well aware of the dangers associated with it. Here is just one of the numerous studies on shadow flicker:

<https://www.epilepsysociety.org.uk/wind-turbines-and-photosensitive-epilepsy#.XGB4-M9Ki-s>

Thank you so much for your time,

Spencer Murphy

On Sun, Feb 10, 2019 at 11:11 AM Spencer Murphy
<murphyspencer1@gmail.com> wrote:

Lio Salzar-

After watching the video I have attached regarding the issue of "shadow flicker" produced by these massive windmills, I have taken it upon myself to beg county of Shasta to place all windmills north of highway 299 to not affect the citizens living around Moose Camp Road. After doing research, I have concluded that there is no safe distance escape the issues of shadow flicker and it has nothing to do with how high or low the sun's angle is in relation to North America. Shadow flicker is hazardous to mental health and would ruin my the experience of Shasta County for future generations. My great great grandparents started our lineage in these

beautiful mountains over 90 years ago, and the ashes of my entire family are scattered in the root systems of trees that my great great grandchildren will be able to stand beneath, looking up in awe and bewilderment, thinking of all the generations that have enjoyed this land. I completely support the Fountain Wind Project and its pursuit of harvesting renewable energy. My family, along with the rest of the citizens of Moose Camp are desperate to preserve the epic beauty and tranquility that makes Shasta county so special. PLEASE respect the County of Shasta and its people as much as we do limit the windmills to the area north of highway 299. Thank you so much for your time and consideration of the wishes of the people of Shasta County, I am confident that if you listen to our voices, a compromise can be reached that doesn't harm us, our homes, and our beloved forest.

Sincerely,

Spencer Murphy

Shadow Flicker Link:

<https://youtu.be/MbIe0iUtelQ>

Public Comment Card

Fountain Wind Project

Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Gary & Sharon Narducci ^{Residents of Montgomery Creek 40 years}

Comment: We are deeply disturbed and concerned regarding the Fountain Wind Project that may affect our 2 communities of Round Mountain & Montgomery Creek. We left the Bay Area 40 years ago to escape the destruction of the natural beauty of surrounding mountains due to housing projects & expanding concrete highways (noise pollution & scenic pollution). After watching various U-tube videos of the windmill project in Australia and seeing and hearing the negative comments (health issues, land erosion, creeks & streams destroyed, wells ruined to name a few) of the people living around the windmills it is shocking that Shasta County would even consider such a large dangerous project like this which would affect our 2 communities. Obviously, not enough research has been done. The last thing we want is to view 100 600foot ugly windmills out our windows & property. Many of the homes were purchased long ago for retirement in a pristine area. This project is needless. We are certain you would not choose to have this ugliness & danger looming around your home - So please don't force this on ours.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 328 Montgomery Creek, CA 96065

Email Address: snarducci@hotmail.com

Opt-in to mailing list (must provide valid address): ☒ Yes, mail Project updates ☐ No, do not send mail

Opt-in to email list (must provide valid email address): ☒ Yes, email Project updates ☐ No, do not send email

RECEIVED
SHASTA COUNTY

FEB 11 2019

DEPT OF RESOURCE MGMT
PLANNING DIVISION

INSTRUCTIONS.

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: <http://comment-tracker.esassoc.com/tracker/fountainwindeir/> by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Place stamp
here

**Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001**

From: [Laureen Oliveira BBHSP](#)
Sent: Thursday, February 14, 2019 6:47 AM
To: [Lio Salazar](#)
Subject: Fountain Wind project comments

Number 1. Has a cumulative report been done on the Terry Cloth 144 acre 99 % clearcut thp that was approved in 2015 along Hatchet Ridge?

Number 2. Have all of the springs and Wells been identified along the entire boundary of the proposed wind farm? It has been spoken that the water table for Montgomery Creek starts on Hatchet Ridge. Before you begin this project, identify the headwaters of Montgomery Creek and the Montgomery Creek water table and show its relation to the proposed border of the Wind Farm. Once this has identified, provide a cumulative report on the effects of the clear-cut and it's relation to the headwaters of Montgomery Creek.

Number 3. What is the amount of concrete or cement, and please identify which one, is proposed to be used for the foundation of one wind turbine? How will the amount of that proposed Foundation affect the intermediate area in regards to the identified endangered species in and around Hatchet Ridge territory?

Give a full detailed report on the cumulative impact that the existing Terry Cloth thp, mentioned earlier, on Hatchet Ridge and any other neighboring, existing THP which is already having and affecting endangered species that have been spotted in this territory. The first is the spotted owl within 1.3 miles of hatchet Ridge. The second species that has been spotted within one point three miles of this area is the goshawk. The third species that has been spotted within one point three miles of this territory is the English Peak Greenbrier. If you don't know anything of this. Do some research and provide me with a report of the threatened or endangered species in this area.

Number 4. Please identify the amount of trees that you are proposing to remove. The ages of those trees and the species of those trees. In relation to the thp that has already clear-cut 144 Acres along Hatchet Ridge, how will your wind farm affect the already clear-cut area. Including the springs and Wells along Hatchet Ridge. And along the entire border of your wind farm.

Number 5. Identify any and all herbicides that are planning on being used in that area and provide the California state law which provides you with the legal distance allowed from herbicide spraying and water sources.

Number 6. Identify the long-term effects of the strobing lights in the night sky in relation to night flying creatures, specifically the spotted owl. And also provide any and all reports done on strobing night skies and relation to medically sensitive human beings to a strobing light condition.

Another point regarding the strobing light. Provide a type of agreement from Lassen Observatory stating that your lights from the wind farm will not interfere with their Observatory.

Number 7. Reports have been done on the EMF emissions from the wind turbines and the effects on human health. Provide any and all reports showing the safe distance recommended and by what agency the recommendation is from.

Number 8. Provide proof that the local tribe is in agreement with this project. From what I understand, the wrong Avenue was taken in your approach to the tribe and the timing was not in their favor. I would like to see the pit river tribe have time to respond regarding their sacred sites and traditional ceremonial grounds including burial grounds and ancient villages along Hatchet Ridge.

Number 9. I'm not sure how this ties into the environmental impact report that you are gathering information for at this time, but property values in this area will be affected by the wind farm on Hatchet Ridge. I would like to see property value reports in the area that have windfarms and their values before the windfarms. Many people have come here to retire and have based their entire savings and livelihood on a peaceful retirement in this community with a view of a beautiful pristine environment. Some people have moved here to raise their children, in a place that is unobtrusive from buildings and City skylines. With the opportunity to come into Redding or visit the city as we choose and participate in City activities with our children as we choose. Those that will be benefiting from the wind farm, their proposed, opposed Wind Farm do not even live in this area. This is a rape of our environment, our Skyline, our resources, jeopardizing our very source of water, which in this community is a source of life and existence for many of the community members. As far as I'm concerned, I demand a cumulative impact report for this environment in which you are proposing to put your wind farm. I want a cumulative impact report for five years down the road, 10 years 15 years, 20 years, 25 years, 50 years,. I want proof that in 50 years this wind farm will be viable for this community

and that it will not have left and environmental mess for this community to clean up. I want proof that these particular , exact wind turbines that are being proposed to be erected in our community on our Skyline, proof that these wind turbines have a life of 100 years or MORE before you are going to prove to me that this is "green" energy.

Along with your environmental impact report for this area, I would like to see the environmental impact reports done for every single wind farm that this company has in the United States of America. I would like to see every proposed wind farm that this company has going in the United States of America.

I am within two miles of the border of the proposed Wind Farm. Let it be known that I am in 100% opposition of this project.

Looking forward to a detailed response to everyone of my points.

Have a good day. Thank You for hearing and supporting our community.

Laureen Oliveira

19300 ruff Ryde Road

Montgomery Creek, California 96065

FOUNTAIN WIND PROJECT (UP 16-007) EIR Scoping Comments

From: Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA

Dear Mr. Salazar,

Thank you for the opportunity to comment on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP) and for the public meeting held at the Montgomery Creek Elementary School on 24 January. We were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and when the public meeting was held. It is hoped that by signing up for the email notification system via the County's website, we will be allowed the full allocated time to comment on the draft EIR when published.

Our following comments are based on information provided by you and others at the scoping meeting and online, including the Environmental Initial Study (EIS), Pacific Wind Development LLC, dated 28 June 2018 and the California Environmental Quality Act (CEQA) Document. The guiding statutes of the CEQA should be strongly considered when evaluating this proposed project, in particular in Section 21001 ADDITIONAL LEGISLATIVE INTENT which states "The Legislature further finds and declares that it is the policy of the state to: (a) Develop and Maintain a high-quality environment now and in the future, and take all action *necessary to protect, rehabilitate, and enhance the environmental quality of the state*. (b) Take all action necessary to provide the people of this state with clean air and water, *enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise*. The EIR should clearly identify how this project **does not** support the Legislative intent of the CEQA because of the Significant Environmental Impacts.

Additionally, according to the Shasta County Code SCC Subsection 17.92.025- Use permits for high voltage electrical transmission and distribution projects.

- G. The purpose of this subsection is to establish criteria for High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County, and shall apply to all such projects, including, but not limited to, projects submitted by municipal utility districts pursuant to Public Utilities Code Section 12808.5. High Voltage Electrical Transmission and Distribution Projects may only be approved or conditionally approved if **all of the following** findings are made based on substantial evidence in the record:
 - 1. The proposed project is consistent with the General Plan and any applicable specific plan(s);
 - 2. There is a demonstrated need for the proposed project;

3. The project, including route and facilities location and equipment appearance and design, is justified when compared with alternatives, and there are no feasible alternatives that would substantially reduce the adverse effects of the project as proposed; and
4. The proposed project will not, under the circumstances of the particular project, be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the proposed use or be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the County; provided, if the proposed project is necessary for the public health, safety, or general welfare, the findings shall so state.

For purposes of this subsection, the term "demonstrated need" means that the applicant has shown that the project is necessary to promote the public health, safety, welfare, and convenience; the term "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

As shown later in this document the FWP does not meet the criteria of SCC 17.92.025G. (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region.

Several Countries throughout the world and several states, such as Oklahoma and several counties in California, have restricted or banned further Industrial Wind Turbine (IWT) installations because of health and significant environmental impacts. IWTs are a significant fire risk, acting as lightning rods and at such a height that fires can't easily be extinguished. Several Counties within California such as Los Angeles, San Diego and San Bernadine have either banned or restricted further IWT installations and these are the counties with the greatest populations and need for the electrical energy. Shasta County already produces more power than it uses, why should the local residents sacrifice their wellbeing when even in the high power usage areas those residents are not willing to do the same. We strongly recommend that a **"No Project"** or **"Alternate-Site"** alternative, discussed further in this document, be adopted due to the significant environmental impacts of this project.

PROJECT ALTERNATIVES:

According to the California Environmental Quality Act (CEQA) guidelines Section **15126.6. CONSIDERATION AND DISCUSSION OF ALTERNATIVES TO THE PROPOSED PROJECT**, an EIR should consider reasonable alternatives to the project as a whole and not just for some impacted areas. In Subsection (c) "The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." This

CEQA guidance does not limit the alternatives to those available in Shasta County alone so those outside the immediate area, as will be suggested later in this document, should also be considered. It is assumed that one of the primary objectives is to produce electrical energy from wind in order to reduce so called green-house gasses and other environmental impacts of fossil fuel energy development. Additionally, in Subsection (e) a **“No Project”** alternative should also be evaluated. The **“No Project”** alternative should discuss *“what would be reasonably expected to occur in the foreseeable future if the project were not approved.”* This would obviously mean avoidance of those environmental impacts that are so disturbing to the local residences and should trouble others throughout Shasta County; especially the resulting increased Fire Risk with its very real possibility of devastating the area and causing the loss of life, and the significant impacts to the Scenic Value of the existing environment. The **“No Project”** alternative should be identified as “Environmentally Superior” according to CEQA guidance.

Also, the guiding statute for consideration of alternative or mitigation measures, including alternate sites as defined by the CEQA guidelines Section **21002. APPROVAL OF PROJECTS; FEASIBLE ALTERNATIVE OR MITIGATION MEASURES** state: *The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.* The **“Alternate-Site”** alternative discussed in more detail later in this document meets the legislative intent for alternatives per the CEQA guidelines. It also fulfills the objective regarding clean renewable energy production and should also be identified as “Environmentally Superior” to approval of the FWP. The financial considerations used in determining feasibility should not include premature contractual obligations such as leasing of land or future power generation/distribution contracts that the developer may have prematurely entered into prior to public review and approval of the proposed project.

PROJECT DESCRIPTION:

As was pointed out by a local resident at the 24 January Scoping Meeting there is a significant problem with the inconsistencies in the stated acreage of the project, which leads one to wonder if there are other inaccuracies in the project description or what exactly is being evaluated in the EIR. The acreage is listed as 43,743 acres (lot size) in the Planning Permit Master Application and as 39,196 in the attachment to the same application. It is described as approximately 38,000 acres in Appendix C of the Environmental Initial Study and 30,532 in the “Project Description”

section of the same document. Are the project boundaries accurate? What is the true extent of this project including if any future expansion plans? How can an accurate EIR be conducted given the up to 43% area discrepancies?

Another disturbing fact mentioned by the developer, that should not have a bearing on the approval of this project, is that the developer has already entered into a long term lease contract with the land owner, Shasta Cascade Timberlands LLC, **prior to approval** of this project. Local citizens of Shasta County, especially those located near the project area, should not have to endure the impacts of this project just because of the developer's premature business deals. Also, the fact that the FWP would be near a preexisting windfarm project (Hatchet Ridge Project) should not be used to justify approval of the FWP. A lot has changed since the EIR/approval of the Hatchet Ridge Project and many would argue that it should not have been approved even then. The increased realization of the nature of the extreme fire hazard for this area, as demonstrated by the many massively devastating fires throughout this region in the last several years, should cause the reduction of the fire hazard and the protection of life and property in this region, to be the primary guiding principles regarding the approval or disapproval of the FWP.

Also, the description of the project is somewhat misleading with regard to the total generating capacity. The approximately 347 MW and the corresponding hundreds of thousands of homes that would be powered is not accurate. The 347 MW would only occur at peak operating performance (i.e. all wind turbines turning at maximum allowable rotational rate). This condition would not occur very often, if ever. Most wind farms operate at 20-25% of peak capacity, 40% is likely the maximum achievable. Also, because of the intermittent nature of wind power the energy produced could never be solely relied upon without backup generation, usually provided by fossil fuel generators.

ISSUES AND IMPACTS: The following Issues and Impacts are included and listed in accordance with the EIS for easier application of relevancy of each comment and proposed mitigation.

I. AETHETICS:

- a. *a) Have a substantial adverse effect on a scenic vista?*

Comments: Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that "the change in visual character is not anticipated to be significant." This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual

analysis should be done to one or more wind turbines, implying that only a small number, maybe as small as one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report, referenced in the EIS, should include analysis of views from all nearby homes with modified photographs depicting all of the proposed IWTs installed for both daytime and nighttime. The views should be also be collected from other surrounding areas including, Bella Vista and parts of Redding that can see the eastern ridgeline where the IWTs would be installed. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5 and these will be closer and almost half again as tall. The analysis should also include the various private homes of local residences in the area as was discussed at the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away. The permanently cleared areas or minimally revegetated areas, including those for the underground and above ground transmission lines should also be considered when conducting the visual analysis. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for miles. Some local residence complain of being able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and **should be used** as a factor to establish significance of the visual impacts. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project." (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefore cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been

constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

- i. **Mitigation:** A “**No Project**” alternative would mitigate these impacts and many others. Even with the “**No Project**” alternative, the objective to produce non-fossil fuel based electrical energy, may be accomplished by increasing hydroelectric generating capacity here in Shasta County. The FWP contribution to clean energy is already less significant than it would appear because it requires that the existing clean hydroelectric generation nearby to be idled back while the IWTs are producing power so, it’s a zero sum gain for clean energy simply based on total energy generated in this area. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired, cleanly, without the visual and other environmental impacts the Fountain Wind Project will have.

Another possible mitigation scheme that would still allow for the generation of electrical power from wind energy, would be an “**Alternate-Site**” alternative. Shasta County is not required to limit its examination of alternate sites to those within Shasta County alone. While this was suggested in a recent court ruling it was not a requirement imposed by law or regulatory statute. It is not incumbent upon Shasta County citizens or government to be a producer of Wind energy. There are other locations within the state that are much more advantageous to the state’s citizens. In the “**Alternate-Site**” alternative underutilized wind farms located in various parts of the country would be revamped. Many wind farms have wind turbines that have fallen into disrepair and are no longer functioning but are frequently still standing such as those in Tehachapi, Altamont Pass, San Geronio Pass near Palm Springs, and elsewhere. Portions of existing windfarms have been abandoned or are poorly maintained, often once the government subsidies run out, which is typically 10-15 years. It has taken decades to clean up derelict wind turbines in San Geronio Pass with thousands being removed and still hundreds remaining. Reuse existing sites in those or similar areas. The area of San Geronio Pass; has abandoned sites, is one of the windiest places in California, has the infrastructure already in place, has desert shrub like vegetation which already does little for Carbon Gas sequestration

and oxygen production unlike our conifer and deciduous forests do, and has already overcome the environmental hurdles, unlike the proposed Fountain Wind Project. The winds haven't stopped blowing there, the money just ran out. The proposer, Avangrid Renewables, has various wind farms such as – Dillon, Tule Wind, Phoenix Wind, Manzana Wind, Mountain View III, and Shiloh, all of which are in non-forested regions of the country. The Developer should be required to document, and provide evidence to Shasta County, whether they have any sites that could be retrofitted, refurbished or further developed within their existing Wind Farms. All of their current sites are in non-forested and less wildfire prone regions.

Before considering any approval of this project, then as has been done in several areas throughout this country and in Europe, the County should require a “guarantee of compensation against property loss” from the builder for any reasons related to the development of the FWP. Property values could be appraised prior to the commencement of the project and then again upon completion. Loss of any unrealized appreciation during the construction phase could also be factored into the total compensation.

- b. *b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Comments: We agree with the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the FWP's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

- c. *c) Substantially degrade the existing visual character or quality of the site and its surroundings?*

Comments: See above comments for Aesthetics (a, b).

- d. *d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Comments: As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines. Shadow flicker from the nearby Hatchet Wind Project can be seen sweeping across parts of Hwy 299 as the sun drops lower in the western sky which can be disturbing/startling while driving if you don’t know where the large moving shadow is coming from.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

II. AGRICULTURE AND FORESTRY RESOURCES:

- a. *(a,b,c,d,e)*

Comments: The temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over

981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

III. **AIR QUALITY:**

- a. ***b)** Violate any air quality standard or contribute substantially to an existing or projected air quality violation? **c)** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? **d)** Expose sensitive receptors to substantial pollutant concentrations? **e)** Create objectionable odors affecting a substantial number of people?*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that’s 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated

during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

IV. **BIOLOGICAL RESOURCES:**

- a. *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Comments: Various studies are referred to in the EIS but are not available on the County’s Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. We are located within a couple of miles of several proposed IWTs and have regularly observed Bald Eagles, Ospreys and other birds of prey on or around our property which has a large pond on it, yet we did not see any sightings listed for what is essentially the area just a couple of miles west of the IWTs. Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the

FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour during maximum operating rotations. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.^[1] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them^[2].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporarily reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects^[3].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation)^[4]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water^[4].

As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Some have tried to minimize the effect of IWTs on the environment, including the impacts to wildlife by comparing it to theoretical effects of fossil fuel generation on the environment due to global warming and other possible effects of consuming fossil fuels. This should not be a bases for attempting to minimize the significance of impacts in the EIR due to the FWP. Just because it may not be as bad as other bad alternatives does not make its impacts insignificant. The project impacts should be compared to the “**No Project**” and “**Alternate-Site**” alternative we recommend for the FWP.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].
- b. *c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

Comments: The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up

to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

V. **CULTURAL RESOURCES:**

a. *(a,b,c,d)*

Comments: As mentioned by several speakers during the public scoping meeting held 24 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

VI. **GEOLOGY AND SOILS:**

Comments: Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

- i. **Mitigation:** The “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail] would eliminate any environmental impacts to this area.

VII. **GREENHOUSE GAS EMISSIONS:**

- a. **a)** *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* **(b)** *Conflict with an applicable*

plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Comments: Significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is **No Benefit** to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US

automobile in 2012. According to a recent USDA article entitled “Nature’s Benefits: Carbon Sequestration” this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

VIII. HAZARDS AND HAZARDOUS MATERIALS:

- a. *a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Comments: In the initial findings of the EIS for this section it speaks of “Nonhazardous batteries being stored in the substation.” What are nonhazardous batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm

substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

- i. **Mitigation:** There is no reasonable way to mitigate this impact given the high fire risk for this area, other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].
- b. *g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Comments: The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as “Potentially Significant.” The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area alone. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire’s Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the **“No Project”** or **“Alternate-Site”** alternatives [See Subsection I Aesthetics (a) above for further detail].
- c. *h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Comments: In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called “Wildfire.” Scoping comments to the above question will be made to that section later in this document.

IX. **HYDROLOGY AND WATER QUALITY:**

- a. *a) Violate (Violate any water quality standards or waste discharge requirements? f) Otherwise substantially degrade water quality? Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? d) Substantially alter the existing drainage pattern of the*

site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Comments: The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 feet wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

X. LAND USE AND PLANNING:

- a. b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Comments: The EIS gives a “less than significant” impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and **cannot demonstrate that the project is necessary** to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

XI. MINERAL RESOURCES:

- a. No Comment

XII. NOISE:

- a. *a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies? b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels? c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Comments: IWTs generate infrasound. Infrasound is generally considered low frequency sound below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people’s health and feelings of general wellbeing near IWTs. It may also effect animal behavior and their general wellbeing (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were

situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.^[3]

A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has been shown in animal models to produce an effect similar to sea sickness. ^[5]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.^[6] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.^[7] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.^{[8][9]}

In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was “considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine.” ^{[10][11][12]}

The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

- i. **Mitigation:** Infrasound is an unavoidable characteristic of IWTs and cannot be mitigated thus the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

XIII. POPULATION AND HOUSING:

- a. No Comment

XIV. PUBLIC SERVICES:

- a. a) *Fire Protection?*

Comments: As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area, even what would normally be considered a quick response time by local firefighting personnel, may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier

section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations, particularly during the construction phase. Any proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is large risk for this area.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XV. RECREATION:

- a. No Comment

XVI. TRANSPORTATION/TRAFFIC:

- a. *a,b,b,d,e)*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that’s 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XVII. TRIBAL CULTURAL RESOURCES:

- a. *a,b)*

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native

American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XVIII. UTILITIES AND SERVICE SYSTEMS:

- a. No Comment

XIX. MANDATORY FINDINGS OF SIGNIFICANCE:

- a. *b,c) b) Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Comments: b) As mentioned in the EIS the cumulative effects of being closing located to the Hatchet Ridge project should be considered for all applicable areas of the EIR such as the cumulative effects on bats, various avian species (especially migratory birds and raptors [including our very limited Bald Eagle population]) and other species of wildlife in the area.

The restriction of aerial firefighting efforts in a rugged and fire prone region will be compounded by the closely located Hatchet Ridge IWTs.

Also, there have been studies indicating that the wind turbulence of IWTs, especially those located along ridge lines, can impact local weather by disrupting normal air flow over ridge tops. This turbulence from spinning wind turbine rotors increases vertical mixing of heat and water vapor that affects the meteorological conditions downwind, including rainfall^[13] so, the miles of ridge top IWTs of the FWP should be analyzed together with those of the nearby Hatchet Wind Project for possible impacts regarding this phenomena on the local environment.

The cumulative effects of increased fire risk due to the additional sources of potential fire and fuels from the additional IWTs and associated transformers and

other equipment of the Hatchet Ridge project should also all be addressed in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate these impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].
- b. *c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Comments: It’s not clear how the EIS could give this particular category a “No Impact” assessment given all of the areas already identified as potentially significant within the EIS itself. The increased fire threat alone has the potential for significant loss of life. Other identified areas should be examined for potential health effects including: infrasound, shadow flicker and wind turbine syndrome. These IWT effects have been a source of thousands of complaints of negative health impacts throughout the world and have led to various regulations in attempts to minimize their impacts. This area should be assessed as “potentially significant” and evaluated considering all of the available scientific evidence for already identified areas of significant impacts.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

DEMBER 2018 AMENDMENTS TO THE 2018 CEQA: The following environmental area discussed are based on the latest amendment to the CEQA document. Two new categories were added that have significant bearing on the FWP.

ENERGY. *Would the project:*

- a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Comments: Yes, this would result in a significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during construction and operation. As indicated in earlier sections of this document the only option is the “No Project or Alternate Site”. The significant impacts to the environment, including wildlife, and forest lands and other impacts can be mitigated by “No Project” or “Alternate-Site” alternatives identified earlier in this document. There are several alternative sites within the state of California, with much less wildfire risks, with infrastructure already in place, from aging or abandoned IWTs, that can be retro fitted or replaced to generate the clean energy proposed by the FWP. Even though previous wind studies indicate this location may generate the

wind power needed for the FWP, it introduces additional wildfire risks that are not acceptable.

In addition, some of the latest reports and Gap Analysis (from the California Public Utility Commission [CPUC]), indicate the way forward regarding: California's evolving energy market, PG&E's recent bankruptcy filing, grid transmission reliability and safety, renewable energy storage limitations, and the paying of surrounding states to take excess power, all of which need to be resolved and incorporated into the EIR before any further consideration of permit approval for the FWP can take place. These Energy related issue are further discussed below:

According to the CPUC 2018 Report, solar continues to represent the largest portion of renewable energy serving the California load. The report also indicated that with the rapid growth in renewables, particular solar generation, it has dramatically changed California's generation profile, and California's grid operators have had to adapt to these changes. With solar generation, the increase in the morning, when the sun rises, and decrease in the evening requires other resources to balance the generation and load on the electrical system and maintain system reliability.^[24] Due to the inability to store enough renewable energy for later use, and the need to balance the electrical grid, California has **paid** Arizona Public Service (APS) Co, to take our excess solar power. "According to APS President of Energy Resource Management, Tammy McLeod, the Arizona utility will save rate payers up to \$18 million with the new system." "The California Independent System Operator (CISO) had too much power coming into the grid from renewable sources and not enough demand to use it up. California was looking for utilities to use the surplus power. Sweetening the pot, the CISO was paying APS to take the power for higher demand Phoenix."^[14] Adding another intermittent energy source such as the FWP would exacerbate the problem at this time.

California is part of the four-utility Western Regional Energy Imbalance Market, as such they look for ways to import/export power in the system in an attempt to balance the electrical grid, even **paying other states to take excess power off the grid**. Because of the current renewable storage limitations, and the transmissions system reliability and safety constraints, California's ability to both export excess generation and import generation to meet load demands is limited. Clearly the additional power generated by the FWP will just add to the problems currently being addressed by the CPUC. To approve the FWP will only add to this problem and does not address the wasteful energy, safety, and financial inefficiencies, which do not benefit the California consumers.

Based on the December 2018 California Energy Commission Renewable Energy Report, California's evolving electricity market has been shifting largely due to the increase in self-generation and Community Choice Aggregators (CCAs). CCA's are local public agencies,

typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for and Evolving Energy Market* reports that by the end of 2018, as much as 25% of Investor Owned Utilities (IOUs) retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation.^[15]

Transmission Agency of Northern California (TANC), in earlier communications with Shasta County regarding the nearby Hatchet Ridge Project and associated transmission system reliability indicated that, "previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest."^[16] TANC also indicated "In the absence of specific studies qualifying the impacts or associated mitigation costs of the Project, on the existing 500-kV grid, please be aware that this and similar projects will likely increase the cost of rebuilding or re-conducting existing 230-kV line to maintain appropriate levels and related performance objectives for potentially affected public facilities."^[16] Due to the fact that PG&E has filed bankruptcy it seems unlikely that they will take any action for re-conducting or upgrading transmission lines in the FWP area to help stabilize the transmission grid for safety or reliability. With the already identified concerns of reliability and load uncertainty, not to mention the increased costs, and lack of specific studies or analysis, the FWP would only exacerbated the problem by adding additional transmission lines and intermittent power.

According to the CPUC's 2018 report, solar power has dropped in price and installations are on the rise. Additionally, with the mandate that all new homes, beginning in 2020, must have solar power, and the fact that many large businesses and military bases are installing renewable energy systems, the electric grid system safety and reliability is being challenged. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper^[18]. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy. With all the work in progress by the CPUC it cannot be determined that the FWP, at this requested location, shows any benefit to California's green energy efforts. i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and Behind The Meter (BTM) technology penetration to meet statewide goals for reliability, decarbonization and affordability?

The CPUC released a report in May 2018 warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern is that CCAs have fractured regulatory decision-making regarding reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC.^[17]

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and BTM technologies, the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Market* (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core principles are met. The *Choice Action Plan and Gap Analysis* indicates the CPUC "lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that if not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement."^[18] This is just further evidence that now is not the time to move forward with the FWP given all of the system challenges and electric grid issues.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the "No Project" or "Alternate-Site" alternatives [See Subsection I Aesthetics (a) above for further detail] at this time.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, the conflict is outlined in the information listed under question (a) for Energy above. Conflicts arise, and needs to be addressed adequately, as identified in the final Choice Action Plan and Gap Analysis Report from the Choice Project, as to how the State will address Distribution Grid Services and Resource Adequacy issues. Some of the current energy inefficiencies have already been mentioned, and I am sure there are many more, that can no longer be ignored. The cost of moving forward, despite some of the issues, especially the transmission grid safety and reliability areas, have cost California billions of dollars and hundreds of lives, none of which can be replaced by accelerating clean energy goals without **addressing the safety and reliability concerns first**.

Additionally, according to the 2018 CPUC Report, California is ahead of its current renewable energy goal targets. The report shows the goal of 33% of electrical demand

supplied by renewable energy for 2020, we are at 34% in 2018. Having already exceeded the current goals, California officials need to pause to address the safety, and threat of life issues now. These issues need to be resolved before any further development takes places. Allowing the FWP to introduce an additional 16 miles of transmission lines proposed in the project and another intermittent power source, will only exacerbate the safety risk and degradation of service issues currently being dealt with and studied by the CPUC.

Additionally, research indicates that wind energy is less efficient than previous thought so the EIR should compare other renewable energy source, to this project, as a means to generate the same clean power (i.e. solar farms [placed in valley location], or additional or increased capacity hydro-electric generation). Because of the many significant environmental impacts of the FWP and the inefficiencies as compared to other renewable sources, the FWP should not be approved and other renewable solar or hydroelectric projects should be considered instead. The study below discusses some of the energy density issues of IWT generated renewable energy

The new study, published in *Environmental Research Letters*, shows yet again that wind energy's Achilles heel is its paltry power density. "We found that the average power density—meaning the rate of energy generation divided by the encompassing area of the wind plant—was up to 100 times lower than estimates by some leading energy experts," said lead author Lee Miller, a postdoctoral fellow who coauthored the report with Harvard physics professor David Keith. The problem is that most estimates of wind energy's potential ignore "wind shadow," an effect that occurs when turbines are placed too closely together: the upwind turbines rob wind speed from others placed downwind.

The study looks at 2016 energy-production data from 1,150 solar projects and 411 onshore wind projects. The combined capacity of the wind projects totaled 43,000 megawatts, or roughly half of all U.S. wind capacity that year. Miller and Keith concluded that **solar panels produce about 10 times more energy per unit of land as wind turbines**—a significant finding—but their work demands attention for two other reasons: first, **it uses real-world data, not models**, to reach its conclusions, and second, **it shows that wind energy's power density is far lower than the Department of Energy, the IPCC, and numerous academics have claimed.**

Further: "While improved wind turbine design and siting have increased capacity factors (and greatly reduced costs), they have not altered power densities." In other words, though Big Wind has increased the size and efficiency of turbines—the latest models stand more than 700 feet tall—it hasn't been able to wring more energy out of the wind. Due to the wind-shadow effect, those taller turbines must be placed farther and farther apart, which means that the giant turbines cover more land. As turbines get taller and sprawl across the landscape, more people see them.

In California, which just boosted its renewable-electricity mandate to 60 percent by 2030, wind turbines are so unpopular that the industry has effectively given up trying to site new projects there.

Big Wind has attempted to intimidate some of its rural opponents by filing lawsuits against them. Last year, NextEra sued the town of Hinton in federal and state court after the town passed an ordinance restricting wind-energy development. The wind-energy giant also sued local governments in Michigan, Indiana, and Missouri, all of which had passed measures restricting wind-energy development.

Why the hardball tactics? Simple: rural residents stand between Big Wind and tens of billions of dollars in subsidies available through the Production Tax Credit. In September, Lisa Linowes, cofounder and executive director of the Industrial Wind Action Group, a New Hampshire-based nonprofit that tracks the wind industry, published an article on MasterResource.org. “The US Treasury estimates the PTC will cost taxpayers \$40.12 billion in the period from 2018 to 2027,” Linowes wrote, “making it, by far, the most expensive energy subsidy under current tax law.” The punchline here is obvious: wind energy has been sold as a great source of “clean” energy. The reality is that wind energy’s expansion has been driven by federal subsidies and state-level mandates. Wind energy, cannot, and will not, meet a significant portion of our future energy needs because it requires too much land. ^[19]

Shasta country already has clean energy projects that support California’s goal for clean and renewable energy generation such as the Hatchet Ridge Wind Project and various Hydroelectric Facilities. The Hatchet Ridge Wind Project has 44 turbines generating up to 102 MW of electricity located near Burney. A nearby Hydroelectric Facilities operated by PG&E spans 38 miles of the Pit River, Pit, 3, 4, and 5 near Burney and Big Bend. It has four dams, four reservoirs, three powerhouses, associated tunnels, surge chambers, and penstocks. The nine generating units from the powerhouses have a combined generation capacity of 325 MW.

One of the biggest concerns that must be addressed is the bankruptcy of PG&E. PG&E filed bankruptcy as the “only viable option” to escape potentially \$30 billion worth of liabilities for sparking major wildfires in 2017 and 2018. State investigators found the utility sparked a dozen major fires in 2017 through poorly maintained powerlines and equipment. Pacific Gas and Electric (PG&E) may shed more than \$40 billion worth of power purchase agreements after the California utility was driven into bankruptcy by liabilities for sparking deadly wildfires, The Wall Street Journal reports.^[20]

PG&E wants the U.S. Bankruptcy Court in San Francisco to rule whether the company must honor \$42 billion worth of contracts with about 350 different energy suppliers, mostly solar

and wind plants. The goals set by government officials were optimistic before PG&E filed for bankruptcy. **California's grid operator has paid surrounding states on several occasions to take excess power off California's grid caused by overproducing solar and wind farms.** ^[20] As noted in a recent Bloomberg news article the wildfire crisis and the resulting PG&E bankruptcy, could impact the state's ability to meet its clean energy and climate goals. ^[21]

Since the installation of the Hatchet Ridge IWTs the environmental safety concerns have escalated tremendously, as witnessed by the recent destructive and devastating wildfires, likely due faulty grid transmission lines (having been poorly maintained), and unpredictable wind patterns (Firenato). With the documented increased safety concerns, and the risk of life threatening wildfires, we do not believe the Hatchet Wind Project should be used as a precedent for determining the approval of the FWP. Many of the same unresolved environmental, safety, economic, and electrical transmission grid impacts from the Hatchet Ridge Project, still exist, some having actually increased in their impact (such as wildfires). The proposed FWP would create cumulative impacts that need to be addressed and resolved, via independent studies, in conjunction with the documented transmission grid safety, reliability, and degradation issues as a whole for the state.

Even though it has been documented that wind generation at the proposed project site is sufficient for a wind generation facility, Shasta County should not approve the permit based on the reduced community safety issues alone and the further ongoing electric generation and transmission issues within the State.

- i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the ongoing electric grid issues, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

WILDFIRE: – *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

- a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastating wildfires that have plagued the area. Per the documentation available on the FWP county web site, only local officials were notified to address any emergency evacuation concerns, others agencies at the State and/or Federal level should also be consulted regarding emergency response considerations. Considering the

recent Northern California fire activity this item should be listed as ‘Potentially Significant Impact’ with the County providing emergency evacuation plan updates. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, the community emergency evacuation plan needs to be, evaluated, addressed and updated **before** the project developer can indicate if this area has been addressed and how effected any plans would be. The various communities affected by the FWP have very few exit routes near the project area. This limitation has been shown, in the recent Carr, Delta, and Camp fires, to have life threatening and devastating consequences.

The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as “Potentially Significant.” The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire’s Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence’s only

way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

- ii. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The FWP terrain is steep, as much as 25% grade, and inhibits firefighting efforts. Due to the steep terrain firefighting air craft would need to be used, which would be limited in their ability to respond because of the height and wind turbulence of the IWTs. One of the reason the developer choose this site is the prevailing winds which substantially increase the risk of fires starting from downed transmission lines or IWTs and also increases the probability of a fire’s rapid and uncontrollable spread, as was experienced during the local Fountain Fire of ’92 and the very tragic Camp and Carr fires where nearly 100 persons died just last year. In many of the recent fires that plagued Northern California the wind has proven to be a substantial factor in the spread of the wildfires at an unprecedented rate. The fact that IWTs do catch fire and that it is an ongoing concern for the Wind Industry, is well documented. It is thought that the number of fires which have occurred is grossly under reported for various reasons by the Wind Industry. ^[22]

The IWT nacelles typically contain a large amount of flammable materials including: lubricants for the gears, fiberglass covering of the nacelle, resins, plastics etc. Once the IWTs catch fire, typically within the nacelle, there is little that can be done by fire responders other than to let them burn and try to mitigate the spread of fires on the ground as the IWT spews fiery debris over a large area. There is also the danger to fire fighters of being struck from some of this fiery debris, including the large IWT blades which often fly apart during IWT fires. Several communities in this country and throughout the world have restricted any new wind farm developments in timber and forested areas due to increased fire risk caused by IWT fires, transmission lines, and often because of the remote locations and turbine height, limits resources of firefighting efforts. Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas after tens of thousands of acres of forested land were destroyed. ^[23]

On-site fuel to maintain FWP operations and maintenance, including the transformer oils and other flammable materials impose an additional risk factor to an area that has already been identified as “Very High Risk” as indicated by the Cal Fire maps. Any increased risk even if only slightly should not be allowed and is akin to smoking while pumping gas, it should not be allowed to occur in this area.

According to the CPUC 2018 no issue received more attention than the CPUC’s efforts to deal with the increased threat of wildfires throughout the state. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making fire safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 were ravenous and lightning fast as seldom seen in California before. The deadly wildfires drive home the reality that the state is facing challenges of keeping people, property and the environment safe. California’s fire season is longer and more severe and those challenges are expected to get even worse with prolonged drought, increased tree mortality and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the CPUC which will lead to refined policies and new state laws. As part of these efforts to implement wildfire safety the CPUC will examine PG&E’s current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates.

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completely surrounded by areas of elevated fire risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Many residents in the nearby project development area are already being denied homeowner insurance, or renewals, because we are now considered to be in a ‘Very High Risk’ area as identified by Cal Fire Hazard Severity maps. The only homeowner insurance options we have been able to obtain are the California Fair Plan, which is considered to be the last resort for homeowner’s insurance. The FWP would further exacerbates an already highly volatile environment with high winds, forested mountain terrains subject to lightning strikes (compounded by the turbines themselves) and steep terrain making firefighting efforts more difficult (some areas only available by air support alone) as previously stated. Given the already extremely high fire rating for this area and the additional risk imposed by the FWP, the turbine manufacture(s), developer, project land lease owner, Shasta County, and the State of California could be held liable for furthering any developments of this type.

A report generated by Lawrence Berkeley National Laboratory, Greenware Technologies and Envision Geo for the California's Fourth Climate Change Assessment, titled ASSESSING THE IMPACT OF WILDFIRES ON THE CALIFORNIA ELECTRICITY GRID show that for our region the threat of wildfires is doubled by the years 2040-2049 the same time the IWTs are reaching the end of their serviceable life and more prone to failure and fire which would just compound an already volatile situation.

Because of these newly initiated and ongoing efforts by our state regulatory agencies and governance regarding power generation and distribution no further action should be taken to approve the FWP until clearer guidance is provided by the CPUC for regions such as ours, especially since there is no "Demonstrable Need" for the FWP at this time. .

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the "No Project" or "Alternate-Site" alternatives [See Subsection I Aesthetics (a) above for further detail].
- c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Comments: Addressed above and in previous comments.

- d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Comments: Needs to be examined in EIR.

REFERENCES:

- [1] Morin, Monte. 600,000 bats killed at wind energy facilities in 2012, study says, *LA Times*, November 8, 2013.
- [2] Baerwald, Erin F; D'Amours, Genevieve H; Klug, Brandon J; Barclay, Robert MR (2008-08-26). "Barotrauma is a significant cause of bat fatalities at wind turbines". *Current Biology*. **18** (16): R695–R696. *Bibcode*:1996CBio....6.1213A. *doi*:10.1016/j.cub.2008.06.029. *OCLC* 252616082. *PMID* 18727900

- [3] Mikołajczak, J.; Borowski, S.; Marć-Pieńkowska, J.; Odrowąż-Sypniewska, G.; Bernacki, Z.; Siódmiak, J.; Szterk, P. (2013). "Preliminary studies on the reaction of growing geese (*Anser anser* f. *Domestica*) to the proximity of wind turbines". *Polish Journal of Veterinary Sciences*. **16** (4): 679–86. [doi:10.2478/pjvs-2013-0096](#). [PMID 24597302](#)
- [4] Wanless, Jenny. Editorial, Nature & Society, Journal of the Nature and Society Forum, October-November, 2011.
- [5] King, Simon (12 June 2015). "[Wind farm effect on balance 'akin to seasickness': scientist](#)". *News Corp Australia*.
- [6] Rogers, Anthony; Manwell, James (2006). "Wright". Sally: 9. [CiteSeerX 10.1.1.362.4894](#).
- [7] Salt, Alec N.; Kaltenbach, James A. (19 July 2011). "Infrasound From Wind Turbines Could Affect Humans". *Bulletin of Science, Technology & Society*. **31** (4): 296–302. [doi:10.1177/0270467611412555](#)
- [8] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, SayedAbolfazl; Yousefzadeh, Arsalan (June 2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. [Bibcode:2015FNL....1450020A](#). [doi:10.1142/S0219477515500200](#)
- [9] Bolin, Karl; Bluhm, Gösta; Eriksson, Gabriella; Nilsson, Mats E (1 July 2011). "Infrasound and low frequency noise from wind turbines: exposure and health effects". *Environmental Research Letters*. **6** (3): 035103. [Bibcode:2011ERL.....6c5103B](#). [doi:10.1088/1748-9326/6/3/035103](#)
- [10] "[Wind-farm workers suffer poor sleep, international studies find](#)". *The Australian*.
- [11] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, Sayedabolfazl; Yousefzadeh, Arsalan (2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. [doi:10.1142/S0219477515500200](#)
- [12] Inagaki, T.; Li, Y.; Nishi, Y. (10 April 2014). "[Analysis of aerodynamic sound noise generated by a large-scaled wind turbine and its physiological evaluation](#)". *International*

Journal of Environmental Science and Technology. **12** (6): 1933–1944. [doi:10.1007/s13762-014-0581-4](https://doi.org/10.1007/s13762-014-0581-4)

[13] Davidoff, Daniel. “Wind Power Found To Affect Local Climate.” *Scientific American*, The Conversation, Sustainability. The Conversation, February 14, 2014.

[14] Eric Jay Toll, “California pays APS to Take Surplus Solar Power” *Phoenix Business Journal*, October 5, 2016,
<https://www.bizjournals.com/phoenix/news/2016/10/05/california-pays-aps-to-take-surplus-solar-power.html>

[15] https://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf

[16] James Beck, Transmission Agency of Northern California, fax dated January 28th, 2008, comments and responses regarding the Hatchet Ridge Wind project.

[17] Alexander Stevens, “Deregulation Shouldn’t be Blamed for California’s Grid Problems” *Institute for Energy Blog*, June 4, 2018,
<https://www.instituteforenergyresearch.org/the-grid/deregulation-shouldnt-blamed-californias-grid-problems/>

[18] Diane I. Fellman, Choice Project Team Lead, California Customer Choice Project, Choice Action Plan and Gap Analysis, December 2018,
[http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy - Electricity and Natural Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf)

[19] Robert Bryce, “Why Wind Power Isn’t the Answer”, *City Journal.org* Infrastructure and Energy, October 30, 2018, <https://www.city-journal.org/wind-power-is-not-the-answer>

[20] Tim Pearce, The Daily Caller News Foundation, January 30, 2019, “Bankrupt California Utility Shedding more than \$40 Billion Worth of Green Energy Contracts”
<https://dailycaller.com/2019/01/30/bankrupt-california-pge-green-energy/>

[21] Bloomberg News Editors, Brian Eckhouse, Bloomberg, “PG&E’s Wildfire Crisis Could Impact California’s Ambitions Clean Energy Target” November 19, 2018,
<https://www.renewableenergyworld.com/articles/2018/11/pges-wildfire-crisis-could-californias-ambitions-clean-energy-targets.html>

[22] SOLOMON UADIALE¹, ÉVI URBÁN¹, RICKY CARVEL¹, DAVID LANGE², and GUILLERMO REIN³. “Overview of Problems and Solutions in Fire Protection Engineering of Wind Turbines.” FIRE SAFETY SCIENCE-PROCEEDINGS OF THE ELEVENTH INTERNATIONAL SYMPOSIUM pp. 983-995 COPYRIGHT © 2014 INTERNATIONAL ASSOCIATION FOR FIRE SAFETY SCIENCE/ DOI: 10.3801/IAFSS.FSS.11-983

[23] Clyde MacDonald, “Forest Fires and Wind Turbines: The Danger No One is Talking About”, June 29, 2011, Bangor News,
<https://bangordailynews.com/2011/06/29/opinion/forest-fires-and-wind-turbines-the-danger-no-one-is-talking-about/>

[24] California Public Utilities Commission Report 2018.

Sincerely,
Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA 96065

From: [Maggie Osa](#)
Sent: Friday, February 8, 2019 9:49 AM
To: [Lio Salazar](#)
Cc: sleepycreek2@gmail.com
Subject: FWP Economic Issues and Impact Consideration

Hi Lio,

I know there were several comments during the public scoping meeting about the economic impacts, and benefits, for the Fountain Wind Project (FWP) and you indicated they are not covered in the EIR.

If this information is not covered in the EIR where and how do we get access to the data for this portion of the project?

Also, do you expect the visual analysis, in a 3-D format from the Redding view shed, be included in the Draft EIR?

I appreciate your help with this effort.

Best Regards,
Margaret Osa

Public Comment Card

Fountain Wind Project

Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: L. A. Owens

Comment: If you can put the towers out of sight fine. If you can't then maybe you should consider the people, County Constituents, who don't want an eyesore instead of our beautiful location. Which one of you is willing to wake up to an eyesore so long as you can enrich yourselves at the expense of the mostly retirees who reside here. make the project back to where we don't have see our hard earned retirement strapped up just so a bunch non-residents can line their pockets. We were here first, the residents don't want it. As for the local politicians they should understand that no matter their title or how big their shot, All they are is employees and expendable at that. Now go sell us out, we know you will.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address:



Lynn A. Owens
PO Box 396
Round Mountain, CA 96084

Email Address:

Opt-in to mailing list (must provide valid address):

☒ Yes, mail Project updates☐ No, do not send mail

Opt-in to email list (must provide valid email address):

☐ Yes, email Project updates☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: <http://comment-tracker.esassoc.com/tracker/fountainwindeir/> by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

RECEIVED
SHASTA COUNTY

FEB 19 2019

DEPT OF RESOURCE MGMT
BUILDING DIVISION



**Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001**

RECEIVED

JAN 31 2019

COUNTY OF SHASTA
PERMIT COUNTER

Public Comment Card

Fountain Wind Project

Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Charles and Cynthia Palatino

Comment:

Documented from testimonials given by people living in Canada, Norway and Australia who have had wind farms established near their homes and communities.

HEALTH ISSUES

Never ending nausea

High blood pressure

Dizziness

Ear Pressure

Severe daily headaches

Seizures

It has been scientifically documented that these symptoms and others are due to the low infra frequency ultrasound that emanates from the turbines. You can't hear them because of the low frequencies but their impact is far reaching and can be felt in the surrounding area and register a higher intensity within home walls. Children and elderly are very vulnerable to the infra frequency. Residents leave their homes to live in areas not impacted by the wind farms and their symptoms disappear. People are driven off their land for health reasons.

ENVIRONMENTAL IMPACT**ANIMALS:**

Bald eagles nest and hunt in this area regularly. Canadian geese have been seen resting and feeding in our ponds. It has been well documented that wind farms have disrupted migrating bird flyways, also the animal migration routes have also been disrupted. Some bird species have been reported wiped out by the blades. Observers have reported that bat's lungs have imploded when they flew near the blades. Chicken eggs no longer have yoke in them, some chickens stop laying eggs, previously healthy cattle develop issues and die, and baby animals have deformities such as organ swelling and die. It has been documented that earthworms vacate properties that fall within the sphere of influence of wind farms.

LAND:

Environmental degradation is reported wherever these wind farms exist, one example is the fluids contained in the turbines that reportedly seep into the ground. This proposed wind farm will clear-cut a large portion of our forest that was replanted and/or survived the 1992 Fountain Fire, 800 homes were destroyed.

Who will restore the land to its natural state when the turbines are considered obsolete?

EFFICIENCY:

More CO₂ is produced in the manufacture of the foundation concrete than the wind mills would eliminate in their production life span. (927 kg of CO₂ is emitted per 1000 kg of Portland cement.) They require huge fields to be installed because of the low energy per volume of wind that is generated per tower. Wind is intermittent thus limited efficiency. Ice buildup on turbine blades (better known as ice throw) can throw them off balance and cause blades to shatter.

FIRE DANGER:

In high winds the shut off mechanisms have been known to fail. The ensuing vibration travels down the length of the tower and can cause total splintering of the blades and collapse of the tower. This has been documented on film. Wind turbines have also been filmed exploding into a blaze of fire, sending hot burning components into the air for 100's of yards. With our high winds and dry grass hills this would be a disaster.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 317, Round Mountain, CA 96084Email Address: pal-con@outlook.comOpt-in to mailing list (must provide valid address): ☒ Yes, mail Project updates ☐ No, do not send mailOpt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: <http://comment-tracker.esassoc.com/tracker/fountainwindeir/> by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

RECEIVED

JAN 31 2019

COUNTY OF SHASTA
PERMIT COUNTER

Place stamp
here

**Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001**

2/4/2019

As lease holders in Moose Camp Recreation property (established 1928) we feel the impact of the Fountain Wind Project in the Montgomery Creek area would be devastating without benefits! The presence of 600 ft. windmills so close to Moose Camp would be nothing but an eyesore and forever change the natural beauty of the area.

Bill and Brenda Popejoy

1/23/19

The water rights for the buffum homestead . It comes into the southeast corner of the homestead from what use to be roseberg property. Also water rights from buffum creek due south of homestead. We use the water yearly till we turn it off for winter.

Thank you, Randal Rains

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

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SHASTA COUNTY

FEB 14 2019

DEPT OF RESOURCE MGMT
PLANNING DIVISION

Commenter Name/Affiliation: KEVIN REED

Comment: BUILD IT, THEN
BRING TOYS TO THEIR
WOODS

THANK

YOU

PLANNING

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address:

Email Address:

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

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**Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001**



Shasta Group
Mother Lode Chapter
P.O. Box 491554
Redding, CA 96049-1554
www.motherlode.sierraclub.org/shasta

January 27, 2019

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
1855 Placer Street Suite 103
Redding, CA 96001

Subject: Request for 30 Day Time Extension for NOP Fountain Wind Project

On behalf of the Shasta Group of the Sierra Club I am requesting that the County extend the deadline to receive input comments to the Notice of Preparation of the EIR for the Fountain Wind Project from February 14 to March 14, 2019. The first public meeting was held in Round Mountain on January 24, 2019. Prior to that, the general public and especially the residents in the project area did not know how to submit comments on the NOP. I attended that meeting and the obvious response from the audience was how to submit comments on what should be covered in the Draft EIR. Unless the public is given wide berth to include their concerns, there will be a feeling of lack of transparency on the part of the County and the Applicant. I also recommend additional meetings be held in Burney, Palo Cedro and Redding to obtain verbal and written input on the areas of concern for the Draft EIR. These additional meetings and time extension will have little impact on the overall conceptual project schedule but will go a long way in establishing public trust in the CEQA process.

Respectfully submitted,

A handwritten signature in cursive script that reads "John Livingston".

John Livingston
Chair of the Executive Committee of the Shasta Group of Sierra Club



Shasta Group
Mother Lode Chapter
P.O. Box 491554
Redding, CA 96049-1554
www.motherlode.sierraclub.org/shasta

February 6, 2019

Lio Salazar, AICP, Senior Planner
Shasta County Dept. of Resource Management Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Written Scoping Comments-Fountain Wind Project (Use Permit 16-007) Environmental Impact Report (DEIR)

Below are the scoping comments from our Shasta Group of the Sierra Club. Our Group of approximately 1200 members extends geographically from Red Bluff to the Oregon Border in northeastern California. Many of our members will be impacted either directly as their property is near the proposed site, live in the view-shed of the turbine towers, or travel thru the area frequently or occasionally. Please incorporate our comments into the topics covered in the DEIR.

1. The towers, blades, and turbines are traditionally painted white. Please investigate whether other colors or color patterns would have less visual impact and lessen bird strikes.
2. The lights atop the towers seem to attract birds which are hit by the blades. Investigate whether the color of the lights can be changed.
3. The DEIR should include cumulative impacts to onsite and offsite water courses, springs, sediment yields, water quality and visual impacts to watercourses.
4. Evaluate wildfire impacts on equipment, roads, culverts, fencing, runoff, and impacts to stream runoff, water quality, and visual impacts to adjacent landowners as wildfire will happen during the life of the project.
5. Evaluate chronic impacts to bird nesting sites.
6. Estimate number of birds killed by different sizes of towers and different tower densities and layouts.
7. Stantec appears to be doing some of the studies for the EIR under the direction and funding of the Applicant. How can Shasta County be guaranteed that the Stantec work is impartial and scientifically peer reviewed?
8. Why do many of the figures in the preliminary studies have a sheet title of McCloud project?
9. Although not transferrable to the project for which the EIR is being prepared, the reported figures on bird kills of the existing 42 wind turbines and meteorological stations should be given in the Fountain Wind Project DEIR.
10. Land values of private land that is visible from the new turbines will be negatively impacted. This should be estimated in the DEIR or a separate document.

11. When the turbines cease to operate individually or collectively over a sustained period of time due to economics they will be abandoned by the Applicant unless the County Use Permit requires a suitable bond that will cover the true cost of removal of all the turbines, infrastructure, roads and revegetation of the entire disturbed areas. This should be required by the County as a condition of any permit for any project of this type.
12. Any new transmission line corridors that change the existing conditions by new roads, towers, wires, or substations should be identified in the DEIR and the cumulative impacts of these facilities on the adjacent lands, people, wildlife and appearance of the area should be identified.
13. The estimated impacts of climate change over the life of the project should be provided and analyzed with respect to the visual landscape appearance and operation of the facilities.

Respectfully submitted,

A handwritten signature in black ink that reads "John Livingston". The signature is written in a cursive, flowing style.

John Livingston
Chair of the Executive Committee of the Shasta Group of Sierra Club

2/14/19

This letter is in regards to the proposed Fountain Wind Project. The first concern that I have is that the proposed windmills would be equipped with red flashing aviation lights. According to the initial study. "A view-shed analysis will be conducted to identify whether nighttime views would potentially be affected from the turbines equipped with red flashing aviation lights. Therefore, this potential impact will be fully analyzed in the EIR." In the report it also talks about the lights as it would affect a casual observer. Many of the windmills will be placed within a mile of community members homes. The lights would directly impact nighttime views and could cause unwanted light in homes. We are not casual observers. Children in the community have started joking that they will no longer need there nightlights if the windmills are installed. We have chosen to live in a place away from city light pollution. Another concern that I have is regarding how the project would affect the watershed. As discussed at the community meeting many of us get water that comes from the proposed construction site. Disturbing runoff and groundwater could be detrimental to those who own property in the area. There is not only a threat of loss of water but also that of contamination. Most people get their water either from surface water or springs. But it is risky drilling wells in our area because of natural deposits of arsenic. Even in most springs there are trace amounts. There are worries that by disturbing the ground layers more arsenic could be released into springs and run off that people depend on.

Angela Simonis

2/22/2019

Lio Salazar, Project Manager Fountain Wind Project Shasta County, Department of Resource Management - Planning Division

Dear Mr. Salazar,

In regards to sustainable energy, I am a proponent. The ridge for the proposed Fountain Wind Project is ideal in that we usually have daily winds; however, I feel that the concerns of our community outweigh the benefits.

My concerns are:

- ~ The location, how are you going to SAFELY get the windmills in place? Highway 299 is treacherous, and is not made for bringing large equipment such as you described. There is also no safe access from 299 to the ridge.
- ~We already have poor radio/cell communication. This project will only worsen it.
- ~Health and potential cancer issues.
- ~Our precious water. How will the vibration affect our water sources ?
- ~What about the wildlife what will be displaced by the windmills? We have nesting bald eagles on our property, will they be safe hunting and flying by the windmills?
- ~The Pit River Tribe has many sacred sites in this area. How will they be saved?
- ~Who will maintain and repair the windmills if they break? Will they become an eye-sore like the wind farms in Southern California?

Thank you for taking the time to review all our community concerns before making such a critical decision for our intermountain area.

Sincerely, Shari Skalland

January 29, 2019

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street Suite 103
Redding, CA 96001

Mr. Salazar:

I realize that no matter how many letters are received, or what the content, issues will be mitigated away and this project will go forward in the name of progress. I still feel it my obligation to speak out.

I have lived on this mountain 45 years. I cannot express my deepest sorrow, angst, anger at the rape of this land and the local residents for the economic gain of the few and more power for the Bay Area of California, or beyond. How much is enough? Our river is already providing hydropower with its seven plants. Our forests have been burned, clear cut, and now seem to be the perfect place for wind generators. Transmission of power over long distances has been proven to be ineffective and many of the largest wildfires in the state began under transmission lines, including our Fountain Fire, which burned my home with so many others.

I have read the preliminary “desktop review” and the 50+ pages of potentially significant impacts. I still do not see the plan for AFTER COMPLETION OF THE WIND PROJECT. How is the power generated going to be delivered to end users? If the plan is to use existing transmission lines, why is there no review of the safety of the existing lines, maximum capabilities of these lines, clearances for fire safety, etc. With a projected lifespan of approximately 40 years, I feel certain that once the generation is in place, there will DEFINITELY be a need for new transmission lines, and with new fire safety concerns, a huge swath of our environment further devastated as EMINENT DOMAIN crashes through our homes with a new line.

I realize that the building phase of the project is a mere 18-24 months. That doesn’t sound like much unless you are a resident that commutes to Redding every day for work, or an emergency vehicle trying to get through our only route to town – Hwy 299. This report outlines 15 separate, heavy loads per tower, with 8 or 9 superloads. Have you estimated the cost of repairs after 1500 heavy loads on our only conduit to Redding?

The fragile watershed on our ridgeline is well documented. Our home, with the majority of others in our intermountain communities, gets our water from springs. The existing wells here are deep and full of iron and minerals – many unsuitable even for gardening, much less drinking water. This project will most likely cause serious “hydrological interruption.” We will lose our precious spring water and cannot afford the cost of drilling a well that will be unfit to use without extensive filtration.

As for no impact on population:

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Finding: No Impact

The proposed Project will not displace existing housing because the proposed Project will be constructed on private

timber lands used for timber production. No impact would result from Project development and no further analysis is warranted in the EIR

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

Finding: No Impact

The proposed Project will not displace people because the proposed Project will be constructed on private timber lands used for timber production. No impact would result from Project development and no further analysis warranted in the EIR.

While it is true that there are no homes in the project area, the impact on Shasta County is HUGE. I am scheduling "before" and "after" appraisals. I know my property value is going to drop drastically with my viewshed destroyed by towers and transmission lines. There are hundreds of parcels that will be aesthetically affected, so lessening our tax base. I just pray I still have water.

The environmental and personal losses to the communities of eastern Shasta County are far greater than the benefits of generating "green" energy for the southern part of the state. If the power is to be generated for the central state, why is this project not being planned in Contra Costa County, or the East Bay where there are many open, wind-swept agricultural areas, much closer to the end users? My plea is a vote for NO PROJECT HERE.

Sincerely,
Judy Sours
16450 Buzzard Roost Rd.
Round Mountain, CA
judysours@gmail.com

Comment #1 : 1/27/19
Mr. Salazar

I am writing regarding the Fountain Wind Project. First I just tried to go to the project website and got an error message that it had been moved, deleted or didn't exist. How am I supposed to contact them with my concerns about the EIR for this project by their Feb. deadline? Is this another intentional roadblock?

I am primarily writing to express my opposition to this project both on environmental concerns and with social justice concerns. The project stated that they intended to use existing transmission lines. However, as I understand it on their website they have proposed new transmission lines that would essentially be taking the same path as the failed TANC transmission lines. If so this would create a whole new set of environmental concerns that should be addressed as part of this project. Eastern Shasta county and the community of Round Mountain in which we live has already been heavily impacted with hydroelectric, wind power, transfer stations and several transmission corridors. When is enough enough. Our property currently has 2 transmission lines crossing it and is bordered by a third. It is a true social injustice that our community continues to be impacted for the increased needs of the urban areas of CA. When will those communities accept their responsibility for those needs and produce their power close to the point of use. That would include the city of Redding which has historically dismissed the rural areas of eastern Shasta CO. as irrelevant. The dismissal of the human impact of projects like this is criminal. We have done our part for a green CA by building an off the grid home. If this project is approved and the proposed transmission lines go forward will have a third line crossing over our home.

Comment #2 (1-31-2019):

Dear ESA There is a discrepancy in your desk top study 8.0 Civil Design. It states that the annual rainfall is 28 in. That is at the Redding airport which is actually dryer than downtown Redding. We track the rainfall on our rain gauge in Round Mountain as an interest. In 2016-2017 an exceptionally wet year we received 85 inches and in 2017-2018 a dry year we received 45 inches. For this rain year we are currently at 31.31 inches. If you are interested in a more accurate annual rainfall for the area of the FWP I suggest you contact the meteorologists at KRCR TV in Redding they have group of weather watchers they work with in different areas. According to the lifetime residents of Round Mountain I have talked to a normal rainfall year for this area is between 50 and 60 inches. Our elevation is much wetter that the valley so using the annual rainfall at the Redding airport is deceiving and decidedly untrue.

Stan Sours

2/11/19

For over 90 years, members of the Moose Recreational Camp have sought refuge from life in the city on 146 acres of wilderness just a few miles up highway 299 from Montgomery Creek. Today approximately seventy-five families with 50 cabin residences enjoy spending time outdoors and working hard to keep our land thriving in its natural state. We consider our property to be just like a park and even have our own playground. Our main concern with the Fountain Windmill project is that a small number of the 100 proposed windmills would dominate our view of the land surrounding Moose Camp. These windmill sites appear to be located as close as 1750 feet from our property line and at almost 600 feet tall would create an unreasonable visual impact whether driving into camp, driving out of camp or just standing in front of our social hall on Moose Avenue. We are requesting that the Environmental Impact Report take special note of the viewshed from Moose Camp concerning windmills 46 through 50 and 65, 66 and 67. These windmills viewed from Moose Camp would be part of our immediate surroundings, in the foreground, and not just part of a distant landscape like Hatchet Ridge is today.

Jeff Spackman

2/22/19

I would like to register my concern regarding some of the impacts of the proposed Fountain Wind Project. I'm a member of the extended Buffum family, various members of which own the 160-acre Buffum Homestead along Hatchet Creek, which was homesteaded by Frank and Florence Buffum in the 1890s as the summer range for the goats they raised in Anderson, near Redding. The Homestead has served as a refuge and summer gathering point for our extended family for over 100 years. For many years, some family members spent entire summers there. The original cabin was accompanied by a fenced meadow for goats (and horses), and an abundant garden. Since the 1960s I have missed only a few recent summers, bringing my family out to camp and to spend time with cousins from Northern California and from Oregon there on Hatchet Mountain. Some years our gatherings have numbered as many as 50 people. The original cabin went down in a blizzard in the 1930s. The one reconstructed from the remains was burned in the 1992 Fountain Fire. The Buffum family of Redding built and have maintain a pole barn camp site in the Hatchet Creek canyon since before the fire. Other family members (specifically my sister and brother-in-law Barbara and Craig Boyan) have written about the specific concerns I share about the new turbines that would be located just above the Homestead, including impact on the spring and stream that supply our water (which we have used every year since the Homestead was claimed), and on noise pollution, light pollution, danger inherent in the technology itself, and the impact of access for maintenance. I also would like to see the impact on local bird and bat populations thoroughly assessed. It seems to me that so extensive a project would create a huge amount of lethal risk for those inhabitants. The project in its full scope, as proposed, should be shaped and adjusted to address these issues, and those of other local landowners and residents. If the project is going to happen, it seems certain that there is flexibility to the proposal in terms of both the total number of and the specific locations of these huge turbines. In our specific case, I think it reasonable to reduce the number of new turbines and not locate new ones near to the Buffum Homestead. This would be a responsible way to address the concerns laid out in the letter from Barbara and Craig Boyan. I support wind power in general, but am also in favor of thoughtfulness in the specifics of developing and locating and implementing it. I see from the newspapers that many full time local residents have concerns about the impact of this particular project on this particular area, and on their lives. I appreciate the opportunity to weigh in from afar.

David Stanford

Shasta County Planning
Dept. Leo Salazar Senior Planner
"Re" Fountain Wind Project!

Please be advised that
we are against the Fountain
Wind Project, in the Moose
Camp, Montgomery Creek area.

The north part of our
valley is burned to the west,
by the Carr fire. To the north
by the Hertz & Carr fires. The
only pristine area left is to
the east of our county, the
Hatchet, snow Mt., Burney area.

The loss of wildlife,
the noise pollution and the
decrease in property values is
not worth the cost to the north
County. If this project is OK'ed,
the County Chamber of Commerce will
have to rename it's logo From
Shasta Cascade Wonderland to Shasta
Cascade wind farm, as they will be
over

very visible from Rockling
and many areas of the
north County.

Thank you
John F. Stapp
Sandra L. Stapp
Moose Camp Members

RECEIVED
SHASTA COUNTY

FEB 11 2019

DEPT OF RESOURCE MGMT
BUILDING DIVISION

From: Bruce Stein
Sent: Sunday, February 10, 2019 12:02 PM
To: Lio Salazar
Subject: Fountain Wind Project

Dear Mr. Salazar,

I am writing to you regarding the proposed Fountain Wind Project and to respectfully request that you consider the environmental impact these windmills will have on the residents of Moose Camp. It isn't often in one's life that you have the opportunity to satisfy the needs of the many without compromising the needs of the few but this project is just such an opportunity. By merely requiring that the windmill placements be north of Highway 299 the county of Shasta can contribute to renewable energy and also be respectful of the residents in Moose Camp who for generations called their tranquil setting a place for their families to gather and socialize with residents from many diverse backgrounds and places. The shadow flicker and noise produced by these windmills is well documented [online](#). Would you intentionally intend to disrupt the lives of those in Moose Camp by agreeing to windmill placements that would be so harmful to their existence? I ask you to seize this moment to do the right thing by considering the impact those windmills would have on residents in Moose Camp just as you would hope and pray that someone such as yourself would be an advocate for you if the situation were reverse.

Thank you for your consideration.

Sincerely,

Bruce Stein

AXIOMATIC.

O: 323.549.4348

C: 310.344.1007

W: <http://axiomaticgaming.com>

2/22/19

You would be foolish to let this project go through. The total actual cost for the project, the carbon footprint of the project from mining to finish will never be truly off set. Then there is the danger to the wildlife and the damage done to the mountains to construct these giant monstrosities. The estimated power generation vs. true life generation is vastly different. Just look at the projects in southern CA. They do not perform even close to the advertised capacity. Then you have the power fall off when mother nature doesn't cooperate. Please don't destroy the land over a temporary feel good project that has proven to fail to meet the basic goals.

Keith Stoneback

2/10/2019

I grew up going to Moose Camp my entire life. My grandparents, Orville and Regina Swarts owned a cabin there. Their cabin is still in our family and my six siblings and our children are still enjoying the natural beauty of the area. Several years ago windmills went up nearby. We went to go see the windmills and our dogs were cowering and afraid because of the sound they were making. The windmills ruin the beauty of the area, they cast giant shadows and flickering lights that you cannot get away from. The flickering lights will creep through your windows. I am sure they are a danger to anyone with epilepsy or migraines. Have you seen Moose Camp? It is a magical place with small country roads. Windmills and large roads will destroy the wildlife and the life style of the place.

Susan Stremple

2/11/19

To whom it may concern:

Please know after familiarizing myself with

" Shadow Flicker".. I fully believe that this phenomena would be detrimental to the citizens of Shasta County and surrounding the area of "Moose Camp"..unless these windmills were placed far north of the 299 out in the open affecting whereas not to encroach on the fine people of this area.

My family settled in this bucolic area over 115 years ago. I am a 4th generation California. My daughter being the 5th. We take great pride in this fact. my ancestors were born in Shasta County..they lived and breathed this land.

I am all for renewable energy..and I support it. However, I believe there are better options on placement of these massive machines.. The open land there is massive and unencombered . No one living within miles and miles.. place them there.. My great grandmother and grandmother lived just under 100 years respectively and to think that if they were alive today that the land they lived off of and cherished was to be degraded through the placement of said machines.. bringing in the massive sound disruption to a quiet and peaceful land along with the constant "shadow flicker". they would think that their land that they loved had simply lived for had became a land they no longer recognized.. please leave the lasting imprints for generations to come for all to enjoy lands that are untouched by the advancements in our technology.. we simply need to place these massive machines were there is no disruption so that people may enjoy the pristine beauty of our lands for generations to come.

Thank you kindly.

Theresa Stremple

From: Karen Sublette
Sent: Friday, February 22, 2019 11:25 AM
To: Lio Salazar
Subject: Fountain Wind Project

The Fountain Wind Project may affect the Buffum Homestead, my family's land, which is the northwest quarter of section 22. I own the northwest quarter of that homestead. My great-grandparents homesteaded there, over a century ago. Six generations of our family have used and shared it, over the years.

We get together, there, in the summers, some of us (myself included) used to spend whole summers, there. Since our cabins were burned, in the Fountain Fire, of 1992, we have camped on the land we grew up enjoying. Our children and grandchildren now spend time there, too. We all value that land, its beauty, the flora and fauna, clear air, and freedom from noise and light pollution. I am worried that the sound and sight of the huge wind turbines will interfere with what we value.

My son manages the water, from Buffum creek which flows through my land, and is diverted, during the warmer months, to bring water to our family's campsites and to water the seven acre meadow. That water has been clean, drinkable, and sufficient to keep the meadow green and provide for our needs. I am concerned that Buffum creek or the springs that feed it may be disturbed by the project.

While I don't know enough about the effects of these large turbines on the land and animals in the area, to have a clear opinion of whether they are dangerous, or to what degree, I am concerned about the bats and birds that might be harmed by them.

I know other members of the family have written to you. Please take our concerns into account, and help protect our family's homestead.

Thank you.

Karen Sublette

1432 Sardine Creek

Gold Hill OR 97525

541 855-7839

2/10/19

My parents bought their place in Moose Camp in the early fifties. My three siblings and now twenty two grandchildren have enjoyed Moose Camp. They fished the creek, built tree houses, learned too drive an old pickup. They would walk to the service station store on the highway. It was a summer vacation everyone loved It is all of our wishes that it not be ruined with sound and sight of the windmills.

Myrna Swarts Stremple

2/22/2019

We are in total agreement with our fellow residents of Moose Camp, being not in favor of this project. It is unbelievable to think that you would want to extend the Fountain Wind Project to be within 1 mile of Moose Camp. This place has been a haven of rest and recreation for 90 years for many generations. My family has resided in Moose camp since the 1950's. We have enjoyed this area for 5 generations. The original Hatchet Ridge Project has been an eyesore for this beautiful mountain area. It was like an invasion of 500ft. monsters that ruined our mountain top with ugly windmills, that do not work most of the time. It is very rare to see more than 5 windmills working at one time. It is a shame that nobody in our area has benefited very much from these particular windmills. Our power has not been lowered, our land destroyed, and the stress it has put on the residents during the construction. Now phase 2 of this hideous project will be worse than the former. It is unfair that 75 residents and 50 homes in Moose Camp and the communities of Montgomery Creek and Round Mountain should have to sacrifice their land and way of life to give power to people in the cities and ruin our landscapes and get nothing in return. The windmills could cause a hazard to our Medical helicopters going from Alturas to Redding. It is also in the flyway for Migratory Birds. I would hope that you would give consideration to the people of this area. We are a tourist area for people from all over the Western States and beyond. I'm sure the tourists are not too happy to come and see the 600ft. monsters. I'm sure there should be some alternative route that could be found.

Sincerely, Orvil and Myra Swarts

From: Paula Tassen [mailto:ptassen@icloud.com]
Sent: Wednesday, January 30, 2019 6:01 PM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Annual wind speed

Hello, I have a question regarding the wind turbines. My former husband and I had a windmill business that manufactured wind turbine generators in Millville.
He also manufactured solar and hydro electric systems for many years. The annual wind average for Redding is only 8.8 mph annual average wind speed. Our WTG needed 25 mph wind to produce 10KW. I understand Burney is 5.5 mph. What wind speed do these WTG need to produce their maximum electrical output?
Thank

Paula

פולה

<mime-attachment>

From: Trudy Tavares
Sent: Monday, February 11, 2019 5:12 PM
To: Lio Salazar
Subject: Fountain Windmill Projectpro

Good afternoon. My name is Trudy Tavares, and I would like to submit comments related to the Fountain Windmill Project.

The proposed Fountain Windmill project, essentially between Montgomery Creek and Burney, will have a significant impact on the environment and the citizens who live anywhere near them. Two significant issues come to mind.

The first issue is Moose Recreational Camp. This camp was created almost one hundred years ago, but it still thrives today. The residents who own cabins in this camp would look out at potentially 600 foot high windmills, not to mention the ancillary power lines and other supporting structures and equipment. This literally would be just outside our fence line. What consideration has been contemplated for the impact to these families? Further, there are many other residents in this project area who would be similarly impacted. Is this convenient placement or critical placement? Needless to say the aesthetic impact would simply be devastating. Can this even be mitigated? How can one miss a windmill basically the height of a 40 or 45 story building.

The second issue is that of the impacted native American sites. There is no question that almost anywhere in the area, there are historical sites. How can/will this be mitigated? The potential impact to the historical sites is simply not calculable.

Another issue which deserves significant consideration is the potential impact of fire. Is there increased risk in the case of a wildfire if this project is constructed?

It seems logical that consideration should be given to all of these matters, in addition to other environmental impacts. I urge you to require that the EIR prepared for this potential project address these matters very thoroughly, as well as other potential impacts, and to the complete satisfaction of the County. This project is far too impactful to our area.

Regards,

Trudy L. Tavares

2/21/19

Dear Sirs and Madam's: I am very concerned about: Fire fighting, planes being able to fly over and into our canyons. Windmills starting fires. 2: communications with our own personal. Interference from the windmills. 3. Property values. 4. Our traffic while transporting windmills, equipment etc. The accidents and lives lost on 299e during Carr and camp fire as an example. People are less tolerant now. 5. Our tax dollars that will be spent to repair highway. I m sure there will be subsidies to put in these windmills. 6: tahachapi is an example of the mess that will be left behind. The life span of these windmills does not justify the expense to put them in. 7. And most important: health The risks that the windmills impose is not worth it. There is other ways and areas that don't put people's lives at risk. We have been locked out of our fishing and hunting areas. Now we are to give up our views tax dollars and property values for something that will only line the pockets of the land owner and the windmill business at the risk to the people.

Patricia Taylor

From: Candace Tinkler <cltinkler@hotmail.com>
Sent: Monday, January 28, 2019 2:04 PM
To: FountainWind411
Subject: Subscribe

I represent the Tinkler Family Trust, and am now I am the sole owner of two formerly Tinkler Family Trust properties at Blue Lake and part of the association of land owners. Blue Lake is located between Snow and Clover Mountains and is immediately adjacent to the Fountain Wind Project. Please keep me updated on the project. My concerns include potential environmental impacts to vegetation and wildlife, particularly on Snow Mountain, aesthetic impacts and viewshed impairment, impacts on bat populations and migratory birds, increased traffic, impairment to the Little Cow Creek watershed from road construction and erosion, impairment to the dark skies of the area, and degradation of my property values. However, I also understand the benefits of wind-generated power and will not form opinions until I learn more about the project and its studies. I am sorry that I missed the public meeting on January 24. I live in Crescent City, CA, and was not able to attend.

Candace Tinkler
P. O. Box 1741
Crescent City, CA 95531
(707) 464-4128 home
(707) 465-7305 work

From: Lori Waldkirch <buckhorn1022@gmail.com>
Sent: Monday, January 28, 2019 8:06 AM
To: Lio Salazar
Subject: Fwd: Raptors attracted to wind farms | Save the Eagles International

Mr. Salazar

Please take a moment and look at the impact this project will have on raptors alone. This project is very close to Shasta Lake and other smaller lake's and that is where these majestic birds live and fish. I am so disappointed in Shasta County Board of Supervisors and everyone else who saw this coming and planned behind closed doors. If you spend much time east of the Sacramento River you will see that we are already inundated with 500KW Electrical towers and lines. No one can stand in your shoes and tell us there isn't a plan for more now? These towers and lines are already at capacity.

I can stand under any of these 500 KW lines, hold up a fluorescent tube bulb and it will glow. What on earth makes you think we want any more than are here already? The hissing sound and the static electricity in the air are enough to make one wonder what it is doing to us, our children and our livestock over time. Don't allow or encourage more without public and landowners opinions.

Do what is right for the health of this county and the fine people who pay the taxes.

Respectfully,
Lori Waldkirch

<https://savetheeagles.wordpress.com/2013/05/28/raptors-attracted-to-windfarms-2/>

Raptors attracted to wind farms

[<ospreys_new_home.jpg>](#)

Click on picture to enlarge

Raptors are attracted to wind turbines

Wind turbines offer great perching opportunities for birds of prey. From up

there, they have commanding views of open spaces colonized by gramineae, which attract prey such as mice, voles, rabbits, partridges, grouse etc. , or of bodies of water where fish are swimming.

First, they perch on still blades:

<2-blade_perching_tubular1-e1369699134641.jpg>

Altamont Pass: red-tailed hawk perched on top blade.

Click on picture to enlarge

Better resolution picture here:

http://iberica2000.org/documents/eolica/photos/blade_perching.jpg

Then they perch on nacelles or other parts:

<rtha-perched-on-nacelle.jpg>

Click on picture to enlarge

<4-perching_and_oil_pollution1.jpg>

Click on picture to enlarge

Better resolution picture here:

http://iberica2000.org/documents/eolica/photos/red_tailed_hawk_perched_on_nacelle.jpg

Then they may try to build a nest:

<ospreys_new_home.jpg>

In this case a pair of ospreys succeeded because this turbine at Cape Vincent, NY, was mothballed.

Click on picture to enlarge

For better resolution picture, ask
save.the.eagles@gmail.com

Then they perch when the blades are moving:

See this video of a turkey vulture:

<http://savetheeaglesinternational.org/vultures-killed-videos.html>

This perilous perching often ends up in loss of life.

But they also get struck while looking for prey or carrion below the turbines:

See this VIDEO of a griffon vulture on Crete island:

<http://savetheeaglesinternational.org/vulture-struck-by-wind-turbine.html>

CONCLUSION: ornithologists hired by wind farm developers are misrepresenting the facts when they say that raptors “avoid” wind farms, or “are displaced” by them, or even sometimes “get used to them”. The truth is that they are **ATTRACTED, then KILLED by wind turbines**. California’s very large Altamont Pass windfarm, for instance, kills about 1300 raptors a year, of which 116 golden eagles on average – source: “Developing Methods to Reduce Bird Mortality In the Altamont Pass Wind Resource Area” (pages 73 & 74, table 3-11, last column: “adjusted for search detection and scavenging”) – Dr. S.Smallwood et al. (2004). And no, Altamont Pass is no

exception. Raptors are being killed by wind farms all over the world.

Would so many be killed if they “avoided” or “were displaced by” or “got used to ” wind turbines?

In another study, Dr. Smallwood noted that raptor flew close to wind turbines **more often than they would by chance**: *“Smallwood and Thelander (2004, 2005) reported that raptors fly disproportionately close to wind turbines, flying within 50 meters of wind turbines between seven and ten times more often than expected by chance. ”* See: Annex (A) to “Scottish government, European Commission guilty of ecological vandalism”

So did this study of raptors migrating over water:

<http://www.dailymail.co.uk/sciencetech/article-4054530/Wind-farms-DEADLY-birds-prey-Migrating-raptors-attracted-turbines-potential-landing-spots.html>

AS A RESULT, MANY RAPTORS GET STRUCK BY THE BLADES:

Some of the eagles killed by wind turbines (tip of the iceberg)

<http://www.iberica2000.org/es/Articulo.asp?Id=3071> – Last updated in 2006

Some of the ospreys killed by wind turbines (tip of the iceberg)
<http://savetheeaglesinternational.org/new/843-2.html>

Effects on red kites
<http://rapaces.lpo.fr/sites/default/files/milan-royal/63/actesmilan150.pdf> (pages 96, 97).

MORE: see our main webpage, at www.savetheeaglesinternational.org

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Note: if an ad appears below, it's from WordPress, not from WCFN. WordPress is free of charge, but publicity is how they recoup their costs. We regret that our budget does not permit us to afford an ad-free webpage.

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From: Lori Waldkirch <buckhorn1022@gmail.com>
Sent: Monday, January 28, 2019 8:11 AM
To: Lio Salazar
Subject: How Many Birds Do Wind Turbines Really Kill? | Smart News | Smithsonian

Dear Mr. Salazar~.

Please take a minute to open this and have a look. Pay special attention to the end of the article where it talks about “taller” wind turbines.

Kind regards~ Lori

<https://www.smithsonianmag.com/smart-news/how-many-birds-do-wind-turbines-really-kill-180948154/>

From: Evan Watson
Sent: Monday, February 11, 2019 5:46 PM
To: Lio Salazar
Subject: Fountain Wind Project EIR

Hello Mr Salazar,

I came to the EIR scoping meeting that was held at the Montgomery Creek School last month. Since then I have been doing some research and organizing my thoughts with respect to comments for the Fountain Wind Project EIR. At this point in time I am neither for the project nor against the project. I believe that wind energy will play an important role in California's energy future, but I remain skeptical that there are not superior alternatives to the project at this time. The results of the EIR and hopefully the economic impact analysis will likely be important documents in my decision to support or oppose the project. With that in mind I believe it is crucial that the EIR be a broad and thorough examination of all relevant environmental considerations. Below I list and discuss the environmental consideration that I believe must be included in the EIR.

Alternative and Substitute Projects

The EIR must explain why this project is environmentally superior to an equivalently sized off-shore wind project. After some research it appears that an off-shore wind project located in Central California has many environmental advantages. First, a project in Central California would be geographical closer to the areas of the state with the highest demand for electricity: the greater Bay Area and Southern California. Secondly, an off-shore wind project would not necessitate building new overhead transmission lines. California fires over the past several summers have demonstrated that electrical transmission lines are a common source of ignition for wildfires, which pose a risk to communities, habitat, and contribute to green house gas emissions. Another advantage of an off-shore project is that the existing transmission lines on the western side of California are less crowded with electricity than lines on the eastern side. Having less crowded transmission lines ensures that renewable energy can be prioritized over other sources and will not be wasted. Furthermore, offshore wind turbines are typically larger than land based, which as explained by the California Audubon Society, has the advantage of offering smaller project footprints and is less harmful to avian species.

Lastly, the Central California coast is an excellent alternative for this project because

in 2024 and 2025 the Diablo Nuclear plant will shut down and all of its existing transmission infrastructure will become available for use. This is a very important point to make clear; in the Central Coast there is an already identified wind energy area close to large capacity and existing transmission infrastructure that will soon become obsolete unless more electricity is generated in the area. Please ensure that a thorough discussion of this alternative is discussed in the EIR.

Sources of energy this project would replace.

The EIR must explain what sources of carbon intensive energy this project will replace. The EIR must ensure that this project will not replace any existing sources of renewable energy, be they hydropower, existing wind generation, solar, or others.

Wildlife

The project area offers a section of unique and relatively un-fragmented wildlife habitat that offers some of the best in California for vulnerable and endangered species. In addition to the already listed and identified species, I believe that the EIR must also closely examine the potential impact on species that may, or are currently re-colonizing California, namely the Wolverine and the Grey Wolf.

In 2008 a wolverine thought to have come from an Idaho population was found in the Tahoe National Forest. Though there is little evidence that a viable population of wolverines currently exists in California, the example of the Tahoe National Forest demonstrates that it is possible for the species to make their way back to their original habitat in California. As re-colonization occurs it is important that there be available and undisturbed areas for wolverines to inhabit. The Hatchet Mountain and the Snow Mountain areas will be important.

Wolves offer a similar, though more concrete and pressing example of the value the project area offers for species of special concern. There is currently one pack of Grey Wolves located east of the project area, near Lassen National Park. These wolves and others will soon be looking to expand their range and the project area is a likely place for this to happen. The state of California has demonstrated a desire and commitment to supporting a population of Grey Wolves in the state and as such any potential impact the Fountain Wind Project may have on the process needs to be closely examined. An additional factor impactful to the wolves is that Rocky Mountain Elk, a common Grey Wolf prey species, are increasingly common in the project area. It is likely that Grey Wolf individuals are already in or near the project area. In my opinion the state has been slow in addressing the reality of having Grey Wolves in California, please ensure that the EIR avoids the same mistakes.

Recreation

The Environmental Initial Study document prepared by Stantec did not identify recreation as an environmental factor to consider in the EIR due to some language about local and regional parks. I would like to make clear that though there are not "parks" in the project area, the Fountain Wind Project will certainly impact recreation. The project area encompasses areas within the Roaring Creek, Hall Creek, Hatchet Creek, Montgomery Creek as well as numerous others that all provide significant recreation based around swimming and fishing. This needs to be considered in the EIR.

Other recreational activities that will be impacted include; Hiking, Biking, X-Country Skiing, Snowmobiling, Bird Watching.

A Carbon Lifecycle Analysis

Should this project proceed the construction process will require significant greenhouse gas emissions. While the marginal Mega Watt of wind energy produced has a low carbon footprint, the initial power that this project produces will have a relatively high emissions foot print. The EIR needs to include a carbon lifecycle analysis of this project and explain how long the project will have to generate power before it beats other sources at the marginal Mega Watt.

Thank you and I look forward to reading the EIR,

Sincerely,

Evan Watson

530-949-1641

The New York Times

***Something New May Be Rising
Off California Coast: Wind Farms*****By Ivan Penn and Stanley Reed**

Oct. 19, 2018

LOS ANGELES — California's aggressive pursuit of an electric grid fully powered by renewable energy sources is heading in a new direction: offshore.

On Friday, the federal Interior Department took the first steps to enable companies to lease waters in Central and Northern California for wind projects. If all goes as the state's regulators and utilities expect, floating windmills could begin producing power within six years.

Such ambitions were precluded until now because of the depths of the Pacific near its shore, which made it difficult to anchor the huge towers that support massive wind turbines. "They would be in much deeper water than anything that has been built in the world so far," said Karen Douglas, a member of the California Energy Commission.

Several contenders are expected to enter the bidding, equipped with new technology that has already been tested in Europe.

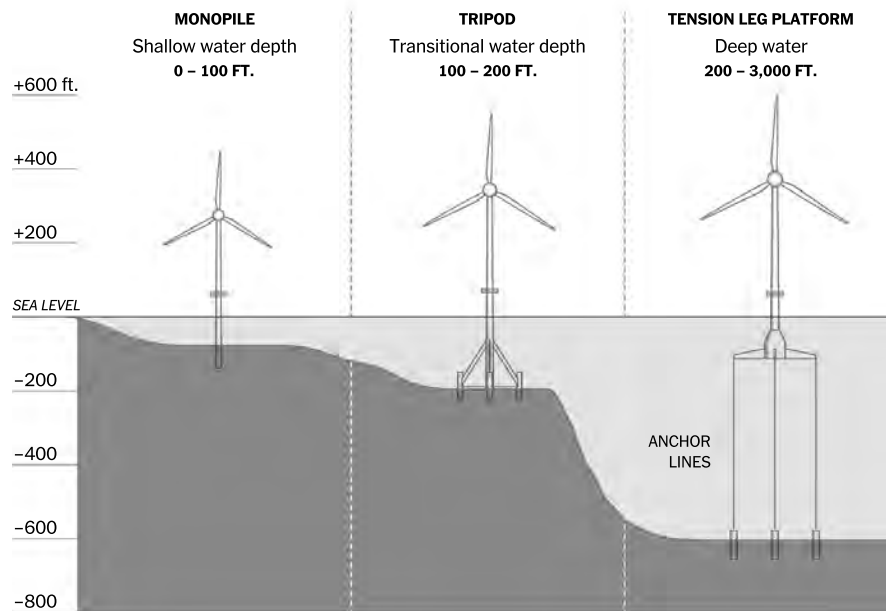
California's determination to fully rely on carbon-free electricity by 2045, mandated in a bill signed by Gov. Jerry Brown in September, is forcing the state to look beyond solar power and land-based wind farms to meet the goal.

"We are early in the process here," Ms. Douglas said, "but offshore wind has potential to help with our renewable energy goals."

The potential rewards from offshore wind development are not without potential downsides, however, and will almost certainly not come without conflict. Development along California's coast has long been a sensitive and highly regulated issue. As has happened elsewhere, there will surely be objections from those who feel their ocean views are being blighted. And the potential impact on birds, fisheries and marine mammals will be closely scrutinized.

Digging Deeper

Building offshore wind farms in deep waters like those off California presents particular challenges. In shallower waters, moorings can be driven directly into the ocean floor. But for greater depths, companies are developing and deploying various designs for floating platforms — like the tension leg platform below — in which the tower is fixed, with anchor lines mooring the platform to the seabed.



By The New York Times | Source: National Renewable Energy Laboratory

California would not be the first place to develop floating wind turbines in the United States. The University of Maine, with \$40 million from the Department of Energy, designed its own floating wind platform and produced a test version that it plans to develop as a commercial project to power 8,000 to 14,000 homes by 2021.

But California is a particularly opportune spot for such a project, given the length of its coast and the size of its population. And the coast offers an added advantage: winds over the ocean tend to pick up strength as the sun sets, just when the contribution of solar power is done for the day.

“California has very good offshore wind,” said Walt Musial, a principal engineer and manager of offshore wind efforts at the National Renewable Energy Laboratory.

The Bureau of Ocean Energy Management, part of the Interior Department, identified three areas for leases: a parcel off Humboldt County in Northern California, and two sites in the Morro Bay area on the central coast, near Hearst Castle and Diablo Canyon, the location of the state’s last operating nuclear plant.

Offshore wind projects in California will largely benefit from existing power lines to keep costs down. Several power plants along the coast have closed or will be retired because of pollution and other environmental concerns. And power lines on the state's western side are less congested than those on the eastern side.

In addition to the federal reviews, the wind projects must be cleared by several state agencies, including the California Coastal Commission for impact on federal and state waters; the California State Lands Commission; and the Department of Fish and Wildlife because of concern about protected species.

It is expected that the wind farms would be about 15 to 30 miles off the coast, making them less visible from land and less of a hazard to seals and migratory birds.

But even at that distance, other marine life could be threatened, including sea birds and whales migrating through the channels. In addition to towers hundreds of feet tall, there would be streams of cables connecting the windmills to the electric grid on shore.



An offshore wind turbine farm in the North Sea off Thanet, at the southeast tip of England, was the largest in the world when it opened in 2010.

Gareth Fuller/Press Association, via Associated Press

“I would have some questions whether those cables would mean that whales would not use the area the same way as they have,” said Francine Kershaw, a marine mammal scientist at the Natural Resources Defense Council, which supports wind power, including offshore development. “But collisions with sea birds is probably the major concern.”

Much will depend on the size of the projects. Proposals are expected from the Redwood Coast Energy Authority in Humboldt County, which is seeking developers for 10 to 15 floating wind units that can help it meet the carbon-free mandate.

Redwood Coast, a government-run utility serving 60,000 customers in a mostly rural area, expects to spend about \$500 million for the wind farm.

“That level of generation would be a significant chunk of our energy load,” said Matthew Marshall, Redwood Coast’s executive director. “Offshore wind is really the big untapped resource.”

California’s path toward offshore wind development began two years ago when the governor formed a task force with federal and state authorities. Demonstration projects of floating wind turbines off the coast of Norway and Denmark, as well as a small five-turbine farm in Scotland’s waters, encouraged the California efforts.

Equinor, the Norwegian energy company formerly known as Statoil, carried out the Scotland project, still in a demonstration phase. It consists of five large turbines on a platform called a spar — a vertical floating buoy like those used in the oil industry.

“California is one of the places we are looking to work,” said Elin Isaksen, a spokeswoman for renewable energy at Equinor.

Equinor previously acquired a federal lease on about 80,000 acres off Long Island in New York and is working on what the company estimates could be a \$3 billion project there to power up to one million homes. Its winning bid for the lease was \$42 million.

A second potential bidder for California leases is Trident Winds, which wants to build a 100-unit wind farm on the central coast through a partnership called Castle Wind. Another is Magellan Wind, which is working with Copenhagen Infrastructure Partners, a Danish investment firm involved in a wind project off Massachusetts.

Henrik Stiesdal, a Danish wind energy developer who has been working with the Magellan group, said that until now, offshore wind had been confined to areas like the North Sea and China with shallow coastal waters near population centers. “But there are many places in the world that don’t have that blessing,” he said.

He said the lesson of the offshore and onshore wind industries was that the ability to mass produce the equipment was a key to lowering costs. His design will do that, he said, with components made in a turbine tower factory, shipped to a port and then assembled.

Mr. Musial of the National Renewable Energy Laboratory said such projects would have the same economics as those in shallower waters.

“If we look at the cost breakdown structures of a floating project or fixed-bottom project, they’re using a lot of the same components,” he said. “There’s no big element that makes floating more expensive. In fact, there are some elements that might make floating cheaper.”

Dan Reicher, a former Energy Department official who has been an adviser to Magellan, said he believed that California was starting one of its greatest initiatives in developing clean power.

“In California, we’re not used to falling behind other states when it comes to renewable energy,” Mr. Reicher said. “That is the case when it comes to offshore wind. I think all of that will change with these floating systems.”

The Bureau of Ocean Energy Management will take public comments over the next 100 days. If all regulatory hurdles are cleared, leases could be signed in 18 months.

Ivan Penn reported from Los Angeles and Stanley Reed from London.

A version of this article appears in print on Oct. 19, 2018, on Page B1 of the New York edition with the headline: California Wind Farm Bids May Push Floating Turbines

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February 12, 2019

To: Lio Salazar, Shasta County Department of Resource Management, Planning Division

From: Jaclyn White, 21550 Big Bend Road, Montgomery Creek, Ca 96065

Re: Fountain Wind Project

My name is Jaclyn White and I have lived at 21550 Big Bend Road in Montgomery Creek s with my husband David Pitz for 25 Years. We have 17 acres of forest and pasture land in the community of Wengler in the Roaring Creek Drainage. I have several concerns that I would like addressed in the Environmental Impact Study.

1. Wildlife Conservation: I was pleased to see the letter from the Wintu Audubon Association voicing their concerns about the bird migrations, specifically the migration of the Sand Hill Cranes. One of the delights of living here is the witnessing of the migration of the Sand Hill Cranes in early spring and late fall. They sound their arrival in March and November as they migrate from or to the Sacramento Delta. I usually hear them before I see them around 10:30 am as they fly over our property, and they are flying low enough to count them. These are big birds, standing from 3-4 feet tall. They can be found foraging just north east in McArthur and Bieber on their way north. My concerns are two: The 2017 avian surveys were conducted in April and October and would not have noted the migration of the Cranes in March and November. The wind turbines are almost 600 feet tall. I am concerned that the cranes may be harmed by the turbines. I'd like a further survey conducted in their migration months.
2. Protection of our Water Supply: We pull our drinking and agricultural water from Roaring Creek through the Vaughn Ditch, used by 20 families in Wengler. The most northerly turbines on the Hatchet Ridge overlook the Roaring Creek Drainage. I am concerned that the construction of roadways (20-80 Feet Wide), Underground cable trenches (50-30 Foot corridors, 4 feet deep), and turbine platforms (50 feet deep) will disrupt and/or foul the Roaring Creek drainage and impact our water supply. I am also concerned that the use of herbicides that will be used to clear brush in the turbines, will also wind up in our water supply. Please review the impact of Turbines # T33 and T34 on the Roaring Creek drainage.
3. Fire Safety: The project report identifies the area as a "Very High Fire Hazard Severity Zone". After the Camp and Carr fire destruction of last summer, we are very concerned about the fire risk in our community. As noted in the report this land is zoned as Timberland, but communities have existing in this area since the late 1800's, supported by the timber industry. Wengler is such a community as is Montgomery Creek and Round Mountain. This land is not empty and families have lived here for generations. So fire is a grave concern for all the families that live in these mountains.
After the Fountain Fire of 1992 the land was a scorched moonscape. Roseburg replanted with mostly pine trees and the forest you see now is about 27 years old. It has been neglected. Trees, now 20-30 feet tall, grow 3-4 feet apart; deer brush and manzanita grow in the understory. Years of pine needles cover the forest floor. This forest is a wall of fuel. Take a

short ride down Buzzard Roost Road, which may be one of the existing roads used to construct the wind farm and you will see what I mean. In the description of building the roads that will be needed, words like scraping, grinding, blasting are used, which only invite fears of the spark that will set off the next blaze through our communities. This forest needs to be tended to before any major construction starts. Small and unhealthy trees and brush need to be removed; adequate spacing for growing a healthy forest needs to be maintained. And, after digging roads and trenches, when trying to mitigate the damage, please don't plant more brush even if it is native to the area. Plant trees appropriate distances apart.

Sixteen miles of overhead transmission lines from Hatchet Ridge, over Highway 299, across Hatchet Creek and throughout the timberland southeast of Montgomery Creek and Round Mountain also cause concern for fire. Fifty-six miles of underground cable will snake along ridgelines throughout the project area, but only if there is no steep terrain, no streams or wetlands, and no rocky conditions. Since that pretty much describes the terrain, I would bet that we will have many more overhead transmission lines along the roads and ridgeline in this fuel laden forest.

Please investigate the reality of the fuel load in this forest land in light of the "new normal" for wild fires and seriously consider the advisability of putting more overhead power lines throughout an unmanaged forest with small communities scattered in proximity to this project.

4. Traffic: This project estimates that each turbine will require the transport of an estimated 15 loads per turbine and 8-9 of these loads will be oversized. That is 1500 loads, 900 oversized, traveling Highway #299, a narrow river canyon for most of the trip, with the steep Montgomery Creek grade at the end. How long will this inconvenience exist? What happens when the oversized turbine meets the hay or lumber truck on Highway 299?

This will impact those who commute to Redding for work, entertainment or shopping on a daily basis, as well as those who just want to go to the post office. We experienced this with the Hatchet Wind Project and that was only 40 turbines, not as tall. Please assess the safety and impact of these transportation issues carefully for these communities. A traffic control plan will not mitigate the impact of 900 oversized loads traveling the Highway 299 river canyon road.

5. Geology: We are requesting that an on-site geological survey be part of the Environmental Impact Study. This land is slippery and convoluted. Water travels in mysterious ways throughout the geology. Landslides and road collapses are not uncommon. A thorough study and assessment of the how land and water might be impacted in the project area is mandatory. A desktop geological analysis is not sufficient.
6. Visual Impact and Impact on Our Community- This project is huge! It will transform the mountains that ring our community on the north, east and south sides into a wind farm with:
 - ≠ One hundred 300-600 foot wind turbines set 50 feet into the earth, with associated red blinking lights in the night time
 - ≠ 57 miles of underground cable, along the ridgelines, with 30-50 foot wide corridors
 - ≠ A minimum of 21 miles of overhead transmission lines, with 40-80 foot corridors.

How can this not turn our mountains into an industrial park from Wengler to Moose Camp to Buzzard Roost? When I drive west on Highway 299 will my view of Snow and Round Mountains

and the Montgomery creek valley be one of industrial lights and roads and transmission lines? This community is already impacted greatly by the energy industry. The Pit River is damned in 7 places and parts are restricted for use; two major transmission lines (one 900 yards from my home) run through the community to Round Mountain where PG&E runs a huge transmission station. The Hatchet Ridge Wind Farm glows red on the eastern skyline when I drive home. Isn't that enough? It would be one thing if our communities benefitted in some way, but we get no electricity from these turbines; the 400 construction jobs probably won't employ our community members or youth. I don't know how you assess the value of a rural lifestyle and environment to its residents, but I hope you will. We choose to live here, with all its drawbacks, because of the mountain vistas, the wildlife and the black, star- filled night skies.

Thank you for the opportunity to provide you with the concerns we have about the Fountain Wind Farm Project. While I support the movement away from fossil fuels to renewable energy, I want the County to do due diligence in determining whether this is the right project for this community; and, that we are not creating well-meaning project that will become an environmental problem for the intermountain community.

2/14/2019

Need a several day extension due to the weather related power emergency in Shasta county. I still have no internet and my power just came on. This is not coming from my computer. All my lengthy comments are stuck at my home office on Yellowstone Dr. I am very much against this project due to the lack of any credible impact research that has been conducted by the wind industry. This includes the research conducted at Hatchet Ridge. I have read it. None of it is even close to being scientific and in fact, fraud is a more appropriate word for what has and is taking place. I can prove it and it is all very clearly explained in my comments that I will submit when I get back an internet connection. Some of what I have to say actually warrants a criminal investigation. As of this day, Shasta county has nothing credible that has been submitted to them which would allow any decision to move forward with this project.

Jim Wiegand

From: wiegand@awwwsome.com
Sent: Friday, February 15, 2019 9:27 AM
To: [Lio Salazar](#)
Cc: david.benda@redding.com
Subject: fw: Comments against the Fountain Wind Project
Attachments: Comments Fountain Wind - unfinished.docx

Hi Lio, I called and left a phone message this morning about receipt of my unfinished comments yesterday. Please acknowledge that my comments were received and that I may add to these comments because of the weather related emergency stopped me from completing and submitting all my intended comments.. My comments are extremely important because CEQA and or Federal EIS requirements do not allow for fraudulent non scientific research to be used in any decision making or in determining project mitigation measures. My comments clearly demonstrate the so called studies that Shasta County will rely on, are severely flawed and lack any meaningful credibility. Jim Wiegand

From: "wiegand@awwwsome.com" <wiegand@awwwsome.com>
Sent: Thursday, February 14, 2019 6:58 PM
To: lsalazar@co.shasta.ca.us
Cc: trollholow@aol.com
Subject: Comments against the Fountain Wind Project

Hello Lio Salazar, as I wrote earlier today in Shasta County submission #69, we have not had phone service, power or internet for several days. Not until mid-afternoon did my power come back on. The time to comment was cut short to many.

In the enclosed attachment are the comments I had completed before the power went down. They are not completed, but I could do so with another day or two. What should be of utmost interest to Shasta County and the public is what I didn't talk about in my comments. I have what I believe is very strong evidence of research fraud that took place at Hatchet Ridge. This should be investigated even though the information in this attachment still proves the research conducted at Hatchet Ridge has no credibility, is not scientific and was in fact staged. I cannot stress this enough, none of this bogus research or any of this industry's biased fake research should be used in any way to justify another even far deadlier wind project, like the proposed Fountain Wind project.

Jim Wiegand 4525 Yellowstone Dr Redding, Ca 96001 530 2225338

From: wiegand@awwwsome.com [mailto:wiegand@awwwsome.com]
Sent: Friday, February 22, 2019 10:21 AM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Cc: david.benda@redding.com
Subject: Comments against the Fountain Wind Project

Hi Lio, enclosed are my updated and lengthy comments. If you or anyone else in the planning department, has any questions about the information I have submitted, please feel free contact me and I will explain in more detail. . Jim Wiegand 530 2225338

Comments on the proposed Fountain Wind project in Shasta County

If "green" wind energy is so good, why do so many people have to lie their asses off about it? Except for making a lot of money for a select group of people, I can see no good that has come from any of this industrial blight.

In January, the Record Searchlight printed this highly deceptive statement, "The Fountain Wind project (100 turbines) could produce up to 347 megawatts of electricity, enough to power about 260,000 homes, **according to a formula from the Lawrence Livermore Labs.**" Looks legitimate, but it is not.

Here is another recent statement in the media about 47 of these same 600 ft turbines. This statement estimated less than half the energy output as that printed in the Record Searchlight.... "The project could create enough energy to power 53,000 homes." <https://www.wgrz.com/article/news/proposed-wind-turbines-generating-conflict/71-6fe9d7b5-c029-4d6d-8384-c74d924a3c1c>

But neither of these statements is even close to being true when ethical real-world formulas are used. Could, would, and should are words commonly used by the wind industry to deceive the public so their profits can keep pouring in.

Shasta county should do some of their own wind energy calculations that add up all the massive power losses from the transmission of wind energy from remote locations and make sure to include all the backup energy lost because of these projects. Then factor in the hidden metered power flowing into these projects along with the actual power flowing out. If this is done, Shasta County will uncover a massive "Green" lie being told to the public by this industry.

What's this big lie? Wind energy is inefficient, and the net energy actually being derived from these turbines, amounts to just a miniscule energy contribution.

But the green energy lies I am most concerned with, are the ones that hide the slaughter taking place to highly protected flying species like our disappearing eagles. In these comments I will give a Shasta County a short lesson on how this industry is using fraudulent research to hide their ongoing slaughter to species. I will also show how our Interior Department requires virtually no accountability and is actually helping this industry perpetrate this fraud on the public.

The truth is that wind industry has been rigging their turbine mortality research and species impact research for decades. It's also quite easy to prove. Will Shasta county officials ignore the truth or will they rubber stamp the wind industry's fraudulent research and their bogus environmental impact analysis for

this project? They did with the Hatchet Ridge Wind project. If by chance, Shasta County actually requires credible scientific input, this project has to be denied until honest scientific research is conducted and mitigation of impacts can be fairly mitigated.

In the future the public should absolutely be able to review the Draft EIR for the Fountain Wind project, additional hearings held and be allowed make additional comments. I'm also looking forward to analyzing this EIR. Then I can point out the validity of the information being presented, point out nonscientific citations to fake studies and the fatal flaws to the public.

Actually, having public comments for this project at this time is not really appropriate. **The reason I say this, is because the public is not aware that the truth about these projects is being hidden and their opinions are being manipulated.** The public has no idea that fraudulent nonscientific research and opinions, have concealed important facts about wind energy impacts. The public has no idea that fraudulent nonscientific research was used in the post construction Hatchet Ridge mortality research. Lastly, the public also has no idea that fraudulent nonscientific research was used in the approval process for the Hatchet Ridge.

As scripted, the research conducted at Hatchet Ridge showed no significant mortality impacts. Hopefully, Shasta County officials will not use the industry's paid for biased opinions or their false contrived research, to justify a Fountain Project approval or use it with a fraudulent mitigation of impacts. After all, **how can Shasta County officials or anyone for that matter, fairly mitigate turbine impacts when so many lies are on sitting the table?**

Wind generation facilities. As previously discussed, no other wind permitting projects are currently proposed for the immediate project vicinity. Accordingly, the proposed project would not, by definition, contribute to avian mortality on a cumulatively significant basis. However, development of additional wind projects in the vicinity of Hatchet Mountain would constitute future actions that could lead to a cumulatively significant direct mortality impact on birds and

The Hatchet wind project like other wind projects across the world, have had significant local and cumulative mortality impacts to species. But these impacts

have been hidden with contrived research and from the deliberate avoidance of meaningful scientific research. I will remind Shasta County officials that pretending to do research is not science, deliberately collecting false data is not science and just because public being exposed to this false information, does not make any of it true.

CEQA and Federal laws have no provisions that allow for Shasta County to accept to any biased, unscientific and contrived research created to achieve predetermined nonfactual results. **These laws do not allow research to be rigged so significant effects can be hidden from decision makers and the public.** Yet this rigging is taking place and **it is so easy to prove.....**

- (b) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.
- (c) In determining whether an effect will be adverse or beneficial, the Lead Agency shall consider the views held by members of the public in all areas affected as expressed in the whole record before the lead agency. Before requiring the preparation of an EIR, the Lead Agency must still determine whether environmental change itself might be substantial.

40 CFR 1502.1

§1502.1 Purpose.

The primary purpose of an **environmental impact statement** is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. **It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.** Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

§1502.2 Implementation.

To achieve the purposes set forth in §1502.1 agencies shall prepare environmental impact statements in the following manner:

- (a) Environmental impact statements shall be analytic rather than encyclopedic.

- (b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.
- (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations. Length should vary first with potential environmental problems and then with project size.
- (d) Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.
- (e) The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.
- (f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (§1506.1).
- (g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

§1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

The expert opinions submitted for the approval of Hatchet Ridge wind project were not true and the post construction mortality studies conducted at Hatchet Ridge were a contrived mess. The wind industry's typical scripted studies were used with their nonscientific methodologies, specifically designed to hide most of the fatalities.

When dealing with this industry it is very important to pay attention to deceptive wording or to what they don't say.

Here is one obvious example. Before Hatchet Ridge was approved, this ridiculous expert opinion (shown below), was submitted to Shasta County, downplaying wind turbine fatalities. Yet even in 2008, when America had 25,000 MW of installed wind energy capacity, the USFWS estimated that there

were 440,000 fatalities taking place annually from wind turbines and these low estimates were being derived from this industry's own fraudulent studies.

Biological Resources

The overall direct mortality of birds and bats resulting from collision with objects in the project region is relatively small because of the relative isolation of the project area and the associated lack of large-scale facilities, population, infrastructure, and other projects. Implementation of the proposed project is not expected to result in a significant cumulative effect on bird and bat mortality.

Erickson et al. (2001) estimated the annual number of mortalities of migratory birds in the United States that result from collision with a variety of objects.

- Vehicles: 60–80 million.
- Buildings and windows: 98–980 million.
- Power lines: tens of thousands–174 million.
- Communication towers: 4–50 million.
- Wind generation facilities: 10,000–40,000.

The following analysis outlines the potential, if any, for the proposed project to result in a significantly cumulative impact on the bird-object collisions in the context of the statistics outlined by Erickson et al.

The truth is this, when scientific principles are applied to just the Altamont 2001 turbine research, when this citation was made, their turbines were killing tens of thousands of birds and bats annually. I can prove this statement to anybody with what I have uncovered. Also, when comparing communication towers, buildings, windows, or even domestic cats, these factors kill very few raptors and bats. Information like this is what should have been written and presented to Shasta County, instead of this highly deceptive comparison.

The fact is that raptor and bat deaths at communication towers are virtually nonexistent. This has been known for well over 30 years. Yet the public has been bombarded with disinformation and lies about these forms of mortality as being far more significant than fatalities caused by wind turbines. When the truth is these **wind turbines absolutely annihilate highly protected raptors and bats.**

Another important point is that for decades, mortality studies conducted around communication towers were “scientifically” designed to actually find carcasses. **In contrast staged wind energy studies, like those conducted at Hatchet Ridge,**

are designed with methodologies to specifically allow the majority of fatalities to remain hidden.

And then, to anyone with just a bit of common sense, there is the obvious. The deadly air space around one or even 100 communication towers is relatively insignificant when compared to the millions of cubic feet of rotor sweep, moving with 200 mph blade tip speeds waiting for birds and bats at even a single wind project. The 400 ft. turbines installed at Hatchet Ridge located near slopes, can also easily send carcasses over 200 meters from towers. Yet for Hatchet Ridge research, most fatality searches were limited to clear areas that reached out to about **63 meters**.

Unlike wind turbine research, past communication tower research, reached out 1 ½ times the maximum tower height from bases and carcasses searches were daily. **Not with the 400 foot turbines Hatchet Ridge.** Carcasses searches were restricted to small areas with searches extended out every two weeks and in some cases a month. This massive flaw allowed extended periods of time for turbine carcasses to disappear by industry insiders or by beast.

Speaking of beasts, the Hatchet ridge location is somewhat unique because of the abundance of ground predators that exist in this habitat. The Hatchet Ridge location is inhabited by bears, foxes, martins, coyotes, bobcats, and Mt lions along with many other flying scavengers. Under these conditions, if a special status species or an endangered species happened to be killed by turbines, the odds are that it would never be found. Of course, this wind energy research insanity, is by design.

None of these ground predators and a multitude of others factors are even mentioned in the Hatchet Ridge mortality reports. But I know the foot prints of all these animals were there to seen because the smell of a bloody turbine carcass, will bring them in from miles away. But typical of wind energy research, many important things like this are not even mentioned because **this industry's so-called research is a fabricated stage performance**. For them the less they say the better while ignorant readers are dragged into their rigged world of meaningless calculations and conclusions.

Below is a little more factual information about wind turbine carcass dispersal. It illustrates the absurdity of the mortality research that was allowed to be

conducted at Hatchet Ridge. It was taken from 3-year study in Solano county. While this study was far better than most conducted by the wind industry, it still had a number of very serious flaws. When compared to the Hatchet Ridge turbines the Solano County turbines, were not only shorter, they sat on relatively flat ground, and had shorter blades that reached out from towers 17 meters less. This study, like at Hatchet Ridge, had infrequent searches but search areas were completely searched in all directions and extended out 105 meters from towers. This 105 meters was still not adequate because fatalities were still being found much further out. **Two of these reported fatalities were golden eagles found at 200 and 155 meters away from turbines.**

This is very important information for Shasta County officials.....With the research conducted around the smaller Solano County turbines, 2/3 of the carcasses found at these turbines, including those fatalities they happened to find beyond 105 meters, were located beyond 63 meters.

Now look close at this search methodology taken from the study conducted at Hatchet Ridge..... With the search methodology used for Hatchet Ridge, they set it up so that at least 2/3 of the carcasses would be missed or if found, could be classified as incidental.

2.1.2 Incidental Fatalities

When a bird or bat carcass was found outside of the designated search plot and/or outside of the standardized search period, it was recorded as an incidental fatality. Incidental fatalities were documented with the same level of detail as survey finds; however, they were excluded from statistical analyses. All fatalities documented during the initial sweep survey and during the monthly searches were considered incidental.

covered. Non-searchable area varied between search plots. Four plots were fully searchable, 12 had non-searchable area between 0.5 and 10 percent, and 6 had non-searchable area between 10 and 19 percent, for a total of 7.8 percent of search plots designated as non-searchable. Non-searchable areas were generally located in the outer most third of the established search plot.

Most of the unsearchable areas were located where increasing numbers of carcasses could have be found, even with these small search areas.

But most importantly **the total area beyond 63 meters, the area where the most carcasses from these turbines would be found, was dismissed from the biweekly searches.** Now imagine the multitude of wind turbine carcasses and scattered remains, that were there to be found, but were never reported from the Hatchet ridge turbines. Then there are all the carcasses carted off by the USFWS that can't be reported.

The word "incidental" is important here because it is a trump card for data exclusion, being used in wind industry studies. This very word makes any of these wind industry studies unscientific. It also allows wind industry personnel to handle, move and even hide carcasses when studies are being conducted. When studies have a week, two weeks or even a month interval, wind personnel have reams of time to locate carcasses ahead of searchers.

These research activities produce fraudulent research data. For example, at Altamont Pass during years of formal studies, dozens of golden eagles killed by turbines were excluded from mortality estimates because they have been placed in the incidental category. How do these dead eagles get placed in the incidental category? Wind personnel went around and picked them up ahead of the people doing standardized surveys or they were spotted outside the industry's "designated" and 100 percent unscientific search areas.

The truth is that wind industry's mortality research across America has changed from bad to worse over the years. As turbine grew larger the research has become more fraudulent. For several years now, carcass or mortality searches used in the industry's fake studies, have eroded into searches conducted about once per week on roads and clear gravel pads of turbines.

In order to understand the absurdity of all this, imagine a mailman pulling up to a mailbox then glancing at your driveway. In a fraction of a second, a carcass sitting there in a mangled heap would be incredibly easy to spot. Now think of the hundreds of stops a mailman makes every day. It is about that easy to pre-scan for carcasses ahead of formal searches.

Yet in the wind industry's research now being produced, the industry makes it seem so difficult to find anything from the size a bat to an eagle in their search areas. At one time, there was some truth to this it but this is no longer the case when search areas have been conveniently reduced to roads and cleared areas around turbines. Looking for a carcass on a sliver of road out 100 meters from a turbine and then making a ridiculous calculation for an actual area that can be a thousand times bigger, is not research. But this garbage meets the standards for wind energy research.

Below is information and data taken from the 3-year study conducted in Solano County.

Table 12. Number of incidents per size grouping versus distance from wind turbine tower (Shiloh I)

Range	# Incidents			Ring Area	Fall Density		
	Small & Medium	Large	Bats		Small & Medium	Large	Bats
0-10	23	4	6	314.29	0.07	0.01	0.02
11-20	12	1	8	942.86	0.01	0.0011	0.01
21-30	12	5	16	1571.43	0.01	0.0032	0.01
31-40	20	1	18	2200	0.01	0.0005	0.01
41-50	18	6	25	2828.57	0.01	0.0021	0.01
51-60	34	6	25	3457.14	0.01	0.0017	0.01
61-70	43	2	7	4085.71	0.01	0.0005	0.0017
71-80	54	6	16	4714.29	0.01	0.0013	0.0034
81-90	32	2	6	5342.86	0.01	0.0004	0.0011
91-100	63	4	4	5971.43	0.01	0.0007	0.0007
101-105	20	5	1	3221.43	0.01	0.0016	0.0003

388 of 505 found beyond 38 meters

Avian carcasses of all size groups tended to be located somewhat evenly over a larger distance range than bat carcasses, which tended to be located closer to the towers. The average distance to the tower for bat incidents was ~50m, while the average distance to tower base for bird incidents was ~65m.

Curry & Kerlinger, LLC
October 2009

46

3 year study with undersized 105 meter search areas
100 turbines searched -76 with 80 meter towers and 24 with 65 meter towers
77% of birds and bats were found beyond 38 meter turbine blade length
Had a proper search areas of 150 meters been used well over
90% of the carcasses would have been found beyond the blade length

Searches took place were about once a week and crops were tilled planted and growing in the outer search areas.

Farming hid many of the carcasses and many more would have been found with daily searches.

Even so bat carcasses were still found more than 100 meters from towers

SHILOH I WIND POWER PROJECT

What was reported

ONE YEAR REPORT

Turbine Blade length about 38 meters. Total turbine height 103-118 meters


Table 12. Number of incidents per size grouping versus distance from wind turbine tower

Species Size Group	Distance Range (meters)															Total
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200		
Small Bird	5	1		1	2		1	6	3	8	3				30	
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109	
Large Bird	3	1	2	1	1	1	1	1	2	3	1	1	2	1	21	
Unknown Bird Species*						1	1	2	1	4					9	
Bat	3		4	7	15	9	3	6	4	1					52	
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221	

* All unknown bird species were small or medium sized passerines

What should have been reported

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

Species Size Group	Distance Range (meters)										Avoided area			
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-105	106-110	111-120	121-130	131-200
Small Bird	5	1		1	2		1	6	3	 NOT formally searched and ignored. Carcasses found by accident or easily spotted from a distance				
Medium Bird	9	6	2	8	6	15	15	14	3					
Large Bird	3	1	2	1	1	1	1	1	2					
Unknown Bird Species*						1	1	2	1					
Bat	3		4	7	15	9	3	6	4					
Total	20	8	8	17	24	26	21	29	13	51				

* All unknown bird species were small or medium sized passerines

This study should have expanded formal search areas out to 200 meters from towers

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen due to periods of high visibility during crop rotations. Search intervals were approximately once a week allowing many of the fatalities occurring at this site to be missed.

Bats - 73 percent found past 38 meters (turbine blade length) from towers.

All Birds - 78 percent or 179 carcasses were found 38 or more meters from towers.

Had formal search areas included even an area of up to 150 meters, it would be reasonable to expect 85-90% of carcasses beyond 38 meters.

With this Solano study, carcasses were being found out to 200 meters even though intense formal carcass searches had stopped at 105 meters. Read below.....

1. March 10, 2007. One adult male Golden Eagle was found incidentally 200 meters WSW of Tower F3. Its primaries on left wing were gone, it had fractured metacarpals and could not fly (but was still mobile), was therefore non-releasable. As per our protocols the bird was transferred to the Lindsay Wildlife Hospital, Walnut Creek, CA. We were subsequently informed that it had been euthanized.

100 meters (Table 11). Small carcasses that were found beyond the 100 meters radius included an American Pipit, Horned Lark and Wilson's Warbler, and were found at 102 meters, which is within the 105 meter scanned region. Of the 10 medium sized birds seen beyond 100 meters, 8 were found within 103m, one at 106m (Red-winged Blackbird), and one at 120m (Western Meadowlark, feathers only, was found in grazed pasture). The 5 large carcasses found beyond 100m, all raptor species, were all beyond the 105m search range, with one as far away as 200m (Barn Owl). Raptor carcasses are often easier to find because they are large and thus obvious,

None of the carcasses or injured birds found is listed as federally or state threatened or endangered, however one juvenile male Peregrine Falcon was found 102 meters southeast of tower E2R on November 13, 2007. The status of the Peregrine Falcon, previously federally and state endangered, is currently "delisted", and classified as "SDC", or a state delisting candidate species. Nine incidents were California Species of Special Concern, including a Merlin, 2 Northern Harriers, a Tricolored Blackbird, 4 Yellow Warblers and a Yellow-breasted Chat. Two Burrowing Owl incidents were also found during standardized searches, but were considered caused by "Other" means, and not deemed wind turbine tower (or met tower) related. One Prairie Falcon was found incidentally, at tower C12R. One Golden Eagle, a Protected Species, was found during the second year of this study within the standardized search area. Another Golden Eagle was found incidentally outside the standardized search area.

As I mentioned earlier, wind turbine carcasses disappear by industry insiders or by beast. Besides limiting search intervals and search distance out from turbine bases, one of the easiest ways to rig a study, is to limit search areas to small test or study plots located in the clear areas around turbines. These monitoring protocols effectively ensure that mortality searches around turbines are now conducted primarily on the gravel areas or clear areas and even away from the primary direction of carcass throw. These areas are the easiest areas for wind personnel to pre-scan for bodies ahead of formal searches. In other words, research protocols are specifically designed to focus on the areas that are least likely to have bird and bat carcasses and body parts.

At Hatchet ridge, I could easily scan every one of the 43 cleared areas around every turbine at once or twice a day and so could anyone else including researchers. But this isn't done for studies and carcasses can be easily moved out of these areas ahead of formal searches.

Here is more about the killing potential of this industry's new modern turbines..... In my evaluation of one 7-month wind industry study, I believe many thousands of bat and bird fatalities were concealed in a Post construction study at the Criterion Wind project. This represents an estimated death rate of 111 birds/MW and 357 bats per/MW or nearly 468 birds and bats killed per MW per year. This was my estimated mortality from just 28 - 2.5 MW turbines in

Maryland. The study methodology called for fragmented tiny search areas around the huge turbines with the total of the searched areas equaling about **a complete 50 meter distance from towers**. These ridge line turbines had blades 47 meters in length and search areas calculations should have allowed for launched carcasses out to at least 200 meters from the turbines.

In the mortality report for these turbines it was claimed that searchers systematically searched along predetermined in transects in their search plots. **I was told something completely different by an eyewitness (written statement)**. He told me that he had access to the property and that he observed on two occasions wind personnel/employees, randomly picking up carcasses from around turbines. Two people were seen quickly picking up carcasses from the clear areas (roads and graveled areas) around the turbines. These areas were also the designated search areas for the study.

They were seen dumping carcasses in a bucket and driving off to the next turbine. They were not seen with a pen, no hand-held devices, a computer, no notebooks, they did nothing but run around, grab bodies and drive off. This eyewitness even talked with them and saw bat carcasses in their bucket. They did not appear to be professional and barely spoke English. He also said he would be willing to testify to what he saw. This reported activity was likely an organized pre-scan for carcasses ahead of formal searches.

This observed activity was nothing close to being scientific and took place when formal searches were being conducted on these turbines in Maryland. These turbines are also located in the known habitat of the endangered Indiana bat. I have notified the Interior Department on several occasions about this activity and this witness, but they have never responded back.

The Criterion wind project is interesting because it was designed with mortality research methodologies set up so that carcasses searches would be daily. This is almost unheard of with the wind industry's mortality research. I suspect developers thought they had their bases covered with the grossly undersized search areas. The tiny search areas that were chosen at this wind farm site were at least 25 times too small for these 420 ft tall turbines spinning with their 47-meter blades.

But as researchers would soon find out, those tiny search areas, that did not even cover full areas out to 40 meters from turbines, would still produce hundreds of carcasses that would have to be explained away.

“The monitoring study period was about 7 months, from April 5 to November 15, 2011. Search plots were established around all 28 turbines in the project and the carcass search schedule was for daily searches at all turbines (weather and safety permitting). Search plots were generally up to 40 m (~130 ft) radius totaling roughly 80 m² (~860 ft²). **The shape of the search plots was variable due primarily to the size of the area cleared for construction.**”

The project used the 2.5 MW Liberty Wind Turbine and at that time was the largest wind turbine manufactured in the United States. The turbine was developed through a partnership with U.S. Department of Energy and its National Renewable Energy Laboratory for Clipper Windpower. They refer to this arrangement as a partnership, I would call it collusion.

After reading through the facts, I believe most will agree that the research at this site was rigged and likely so at the highest levels, to hide mortality. But even with the most diehard of sceptics, when seeing the basic facts, it should be very obvious that thousands of carcasses went unreported.

It is my opinion, when all the flawed research factors are taken into consideration, the fatalities hidden in this research could have been 20,000 - 2500 fatalities. This study reported 1540.

Table 2. Proportion of plots searched within the Criterion Wind Energy Project.

Distance (m)	Area Searched (sq. m)	Total Area (sq. m)	Percent Area Searched
10	8,181.64	8,788.17	93.1
20	24,195.94	26,364.50	91.8
30	37,237.17	43,940.83	84.7
40	42,986.84	61,517.16	69.9
50	37,637.84	79,093.50	47.6
60	27,358.02	96,669.83	28.3
70	17,224.81	114,246.16	15.1
80	8,663.08	131,822.50	6.6
90	2,590.51	149,236.64	1.7
100	696.75	165,890.29	0.4

A total of 262 birds (246 small birds and 16 large birds) and 706 bats were found during standardized carcass surveys or incidentally (Table 3). A full listing of casualties found and the locations of casualties are presented in Appendix A and Appendix B.

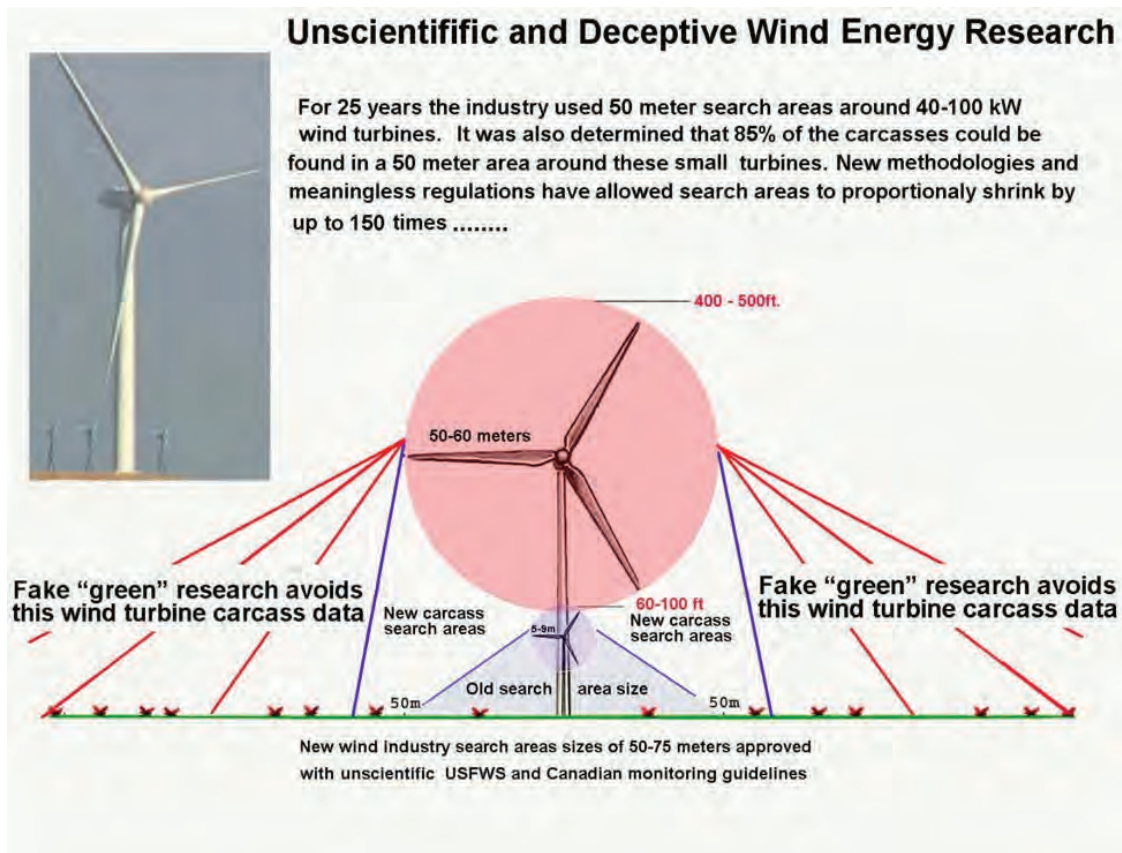
The research reported a total of 968 carcasses but if you study the percentages of the areas searched, the areas where the most carcasses would be found were primarily avoided. This is the area beyond the turbines blade lengths. For this study just 52 birds and bats were reported beyond 47 meters. Based upon past studies in CA, this is an area where 85-90% of all carcasses would have been found.

Of the areas out 47 meters, searches only looked at about 75% of this total area. Adjusting mortality for this lack of search coverage brings the 7-month Criterion carcasses total up to 1221. **But this reported 968 total, was just the beginning of the actual carnage that took place around these turbines.**

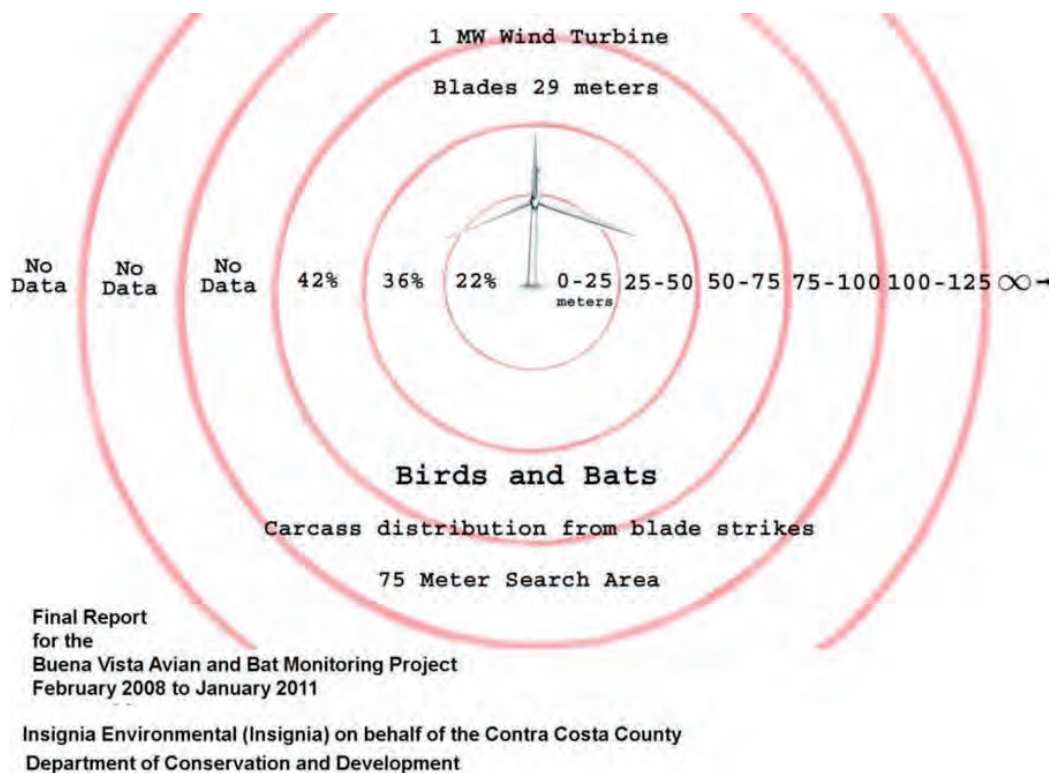
How important are all carcasses? Very important and waiting a week or more allows more than enough time for scavengers, lease holders or wind personnel to pick up most carcasses. Just finding a carcass and flicking a few feet away from a designated search area excludes a carcass from the data. But it gets much worse because a single carcass found 100-200 meters away from a turbine base on a narrow road, **could actually represent 200 or more carcasses in an honest study** when calculations are conducted for missed carcasses in the proportion of a search areas not scanned by researchers.

The data from hundreds of carcasses collection at Altamont also produced similar dispersal patterns from towers. Turbines under 100 ft tall and with 9-meter blades, launched about 50% of carcasses over twice the length of turbine blades.

With the 7-month Criterion research, the carcass total with their fraudulent data adjustment reported only 1221 fatalities with the tiny searches that where are used. If search areas and calculations accounted for missed fatalities launched out to 200 meters, it is easy to understand how thousands of turbine fatalities occurred during this terrible study and were missed. Were 10,000 fatalities missed in this bogus study or was the real number closer to 20,000 or 30,000?



Below is another comparison of carcass dispersal from turbines (1 MW) much smaller than the Hatchet Ridge turbines. This carcass distribution data was collected from a CA study from turbines having much shorter 29-meter blades and much shorter overall heights. In this study it was shown that the highest percentage of carcasses found, were launched well past the length of the blades, 50-75 meters out from towers. Searches did not extend beyond 75 meters but they should have been because many more carcasses would have been found. In the first year of this 38 turbine study, 4 golden eagles were found by researchers.



How many carcasses were missed by the fraudulent Hatchet ridge mortality research? Very likely, thousands.

It appears that the services of Stantec are being used by Avangrid for the Fountain Wind Project. This is important because **nothing** I have seen to date from Stantec, with regards to wind energy research, has any credibility. The public and Shasta County planners need to know this.

On 2/15, I submitted a report about Stantec's research explaining in great detail, their history of poor wind energy research with impossible results to lsalazar@co.shasta.ca.us. I have added this information to the end of these comments.

Dead Eagles and the Wind Industry

In Dec 2016 a law was passed in the US allowing the industrial slaughter of 4200 Bald eagles a year. The public does not know it but this 4200 number, was needed to legally cover the ongoing hidden carnage to America's bald eagles by the wind industry. A slaughter that has been going on for decades and will escalate with the expansion of wind farms in wetland habitats.

The golden eagle population in CA has already been decimated and in order to cover it up, bogus research has been conducted that is overestimating their populations more than 10 times. I haven't seen a golden eagle in the Redding/Lake Shasta area since March 2011. I used to see them regularly

Cumulative mortality information like this below has been hidden by the industry and government agencies for decades.

In Europe, the white-tailed Sea eagle is really their bald eagle, only without a white head. Read below and pay close attention to how quickly these turbines annihilated this fish-eating eagle population on Smola Island Wind. Also remember the fake wind industry research with all their fraudulent data, have never accounted for the mortality that occurs at active nest sites when adults are killed. They pretend it doesn't exist. The Royal Society for the Preservation of Bird's Conservation is mentioned here as well and I will inform everybody, that this group, like Audubon, has sold out and they no longer make truthful statements like this about wind energy.

"June 23, 2006, BBC News reported that 9 White-tailed Eagles have been killed at Norway's Smola Island Wind Energy Facility over a 10-month period. Smola is located off the Norwegian coast where a key population of Europe's largest bird or prey resides.

Since the 68-turbine facility was built, reproductive output has plummeted, with breeding pairs at the site down from 19 to just one.

The Royal Society for the Preservation of Bird's Conservation Director (M. Avery) noted, "So this colony that is very important – was very important – has been practically wiped out because this wind farm was built in exactly the wrong place"



Norwegian Ornithological Society (NOF), 9 May 2006 (our translation):

‘SMØLA WIND PARK IS A CATASTROPHE FOR WHITE TAILED EAGLES’

‘Eight months after the Smøla wind park started working and, with pomp and ceremony, was declared open, unfortunately we have to conclude that nine white tailed eagles have been killed by the wind turbines. NOF will demand that the turbines are stopped so that everyone can sit down and undertake a thorough review of the problem before more birds are killed.

The adult female white tailed eagle in the picture was the seventh to be killed in collision with turbines at Smøla wind park.

© Espen Lie Dahl.

‘Unique knowledge

‘NOF sacrificed large resources over several years’ of casework in order to stop the construction of a wind power station on Smøla. Our background material was large; through NOF’s Project White Tailed Eagle NOF possesses unique knowledge on the species’ population and habitat use on Smøla. In addition NOF has considerable understanding of the negative consequences that wind parks can have, especially for raptors. While the authorities and developers used research from wind parks in Denmark and the Netherlands as the basis for their evaluation, NOF went to the large parks in the USA and Spain to check the results from their investigations. We did this in order to find areas with fauna similar to our own, that is with large raptors that actively use wind park areas. Here we found clear evidence that large raptors are hard hit by such developments. When, in addition, we then showed through Project White Tailed Eagle that Smøla has one of the world’s densest breeding populations of white tailed eagles, then the tragic consequences that we see today were inevitable!

‘[...]

‘Population reduction

‘Of the nine dead white tailed eagles that so far have been found after eight months operation on Smøla, there are six adult, fully fledged birds and three young birds. Last year radio transmitters were attached to six of the young birds on Smøla. Now, less than a year after tagging, three of these have already been found dead. The discovery of six adult birds will also have dramatic consequences for a species with a low breeding rate and a long life span. With over 100 applications for various wind installations along our coast under consideration, of which many are associated with breeding areas for white tailed eagles, we may in a few decades find that the white-tailed eagle population is much reduced. Also other species such as golden eagles, horned owl, red-throated diver etc. may easily be victims of the wind turbines’ beating blades.”

In response to such devastation, instead of telling the truth the industry has chosen to lie with carefully worded statements like this one below. Keep in mind the word “territories” is a vague term that only means an eagle was seen in a particular location. In other words, this description is so bad, it is possible that the same eagle was seen in 61 different locations.

SEA EAGLE RESEARCH

On average, six sea eagles are killed every year due to collisions with the wind turbines on Smøla. However, the sea eagle population is healthy and has grown since construction of the wind farm. In 2009, we registered activity in 61 sea eagle territories on the island – the largest on record. At the

The Interior Department used similar language to hide the devastation occurring to golden eagles in the region around Altamont pass. In a 2015 survey sponsored by the USGS made this fraudulent statement below:

“We documented a total of 138 **territorial pairs** of golden eagles during surveys completed in the 2014 breeding season, which represented about one-half of **the 280 pairs we estimated** to occur in the broader 5,169-square kilometer region sampled. The study results emphasize the importance of accounting for imperfect detection and spatial heterogeneity in studies of site occupancy, breeding success, and abundance of golden eagles.”

This fraud of a study estimated 280 pairs of golden eagles living in imaginary territories over this entire region even though they could **only document 11 occupied** golden eagle nest sites.

Smola Island is 83 square miles. Their turbines are 2.3 MW and are similar to those used at Hatched ridge. The Fountain wind project will have much larger turbines with more than twice the deadly rotor sweep installed on Smola Island, in a much smaller area of 58 square miles. The Fountain Wind project will have over 3 times the eagle and species killing rotor sweep of Hatched Ridge.

How many eagles, raptors or endangered species carcasses have been secretly hauled off from the freezers at Hatched Ridge by the USFWS? This activity is taking place, but the public can't find out because of DC laws put in place in 1997. It was then that Government agents were silenced, the Freedom of Information Act was amended and the Industry's dead eagle secrets were allowed to remain hidden. A hundred or even a thousand eagles could have been killed at Hatched ridge and the public would never know the truth. Read on.....

Denver Eagle Repository Facts - Since 1997 they have processed the remains of 43,000 Bald and Golden eagles

Since 1997 the Denver Eagle Repository has not and will not tell the public the origin or the cause of death for any of the eagles they receive. Repository eagles are eagles that have been killed in places where they are likely to be found. That being, on roads, under power lines or at a wind farm. The Eagle repository recycles these eagles to Native Americans.

For Native Americans, the most important part of an eagle, is having the entire carcass in good condition. But receiving a whole golden eagle carcass in good condition from the Denver Repository can take 5 years. This wait, especially for golden eagles, will continue to grow as their populations continue to decline in the West.



Oct. 29, 2015

Krysta Rogers, of the California Department of Fish and Wildlife in Sacramento holds up the wing of a dead golden eagle. The eagle was found injured on July 25 on a wind farm in the Altamont Pass operated by AWE and had to be euthanized, according to an East Bay Regional Park District report. Rogers said the amputation to the bird's left wing was "consistent with a wind turbine strike." (Gabriela Quirós/KQED) <https://ww2.kqed.org/quest/2015/10/29/wind-energy-vs-golden-eagles/>

The easiest way for an average person to notice a dead eagle, is when it has been killed on a road. But road kills for eagles are rare. Dead eagles can also be found around power lines but they are spotted with irregularity, can lie on the ground for months rotting and are commonly scavenged upon. Many of these power line eagles have also been electrocuted, making their condition marginal for recycling parts to the Native Americans. Whole eagle carcasses found in acceptable condition and suitable for Indian burials, rarely come from power line fatalities.

In the 1970's the USFWS Eagle Repository, was located in Idaho where they were receiving 50-100 eagles a year, with most of them being golden eagles. Back then, the golden eagle population in the West, was 4-5 times what it is today.

By the 1990's, this Eagle Repository was receiving approximately 600-800 carcasses annually with the majority of these eagle carcasses, being shipped

from CA. It was also a time when most of America's wind turbines, were also installed in CA.

Since the early 1980's, wind farms across America have supplied the largest number of eagle carcasses for the eagle repository but the public has not been told this. Over the last 4 1/2 decades, this intake of eagle carcasses has also escalated. In an effort to keep up with this growing supply, the Eagle Repository was moved to a much larger facility in Denver in 1997. Today the Denver Eagle Repository processes 40-50 times the number eagle carcasses it did during the 1970's.

Back when America had just 2200 MW's of wind energy

Eagles turned in to the repository typically have died of natural causes or fatal encounters with power lines, windmills, vehicles, or illegal shooters or trappers. The repository does not accept poisoned birds because of the hazard they pose to human health.

Published by the US Fish and Wildlife service in 1997 before the Clinton Administration silenced all USFWS agents and ammended the Freedom of Information ACT

Wind farms located in eagle habitat always kill eagles and these wind farms have freezers used for the preservation of eagle carcasses. Wind farms are also the easiest place to ever find a dead eagle but these locations are off limits to the public. One of the responsibilities of wind farm personnel when in the field, is to scan for carcasses. If an eagle is found, a supervisor is notified. USFWS agents periodically pick up most of these carcasses and have them shipped to the Denver Eagle Repository.

This eagle mortality quote from 2001 made by The Washington Department of Fish and Wildlife is very telling....."The repository does not record the State of origin of carcasses received (D. Wiist, pers. comm.). If criminal activity is suspected (e.g., gunshot, pesticide mis-use), carcasses may be sent to the USFWS forensics lab in Ashland, Oregon. Eagle carcasses with unknown cause of death are often sent to the National Wildlife Health Lab, in Madison, WI. A report

based on 1,429 carcasses received between 1963 and 1984 indicated that gunshot (23%), trauma (21.1%), poisoning (11.1%), and electrocution (9.1%) were the most prevalent causes of death (National Wildlife Health Laboratory 1985)."

Here is what this quote really is as saying. For decades and from the time wind turbines began slaughtering eagles in CA, the eagle Repository has not released the cause of death for their eagle carcasses. If they had, the repository would have confirmed the devastating eagle mortality being caused by wind turbines, The Repository also no longer releases information for the cause of death for any of the eagle carcasses they receive because if they did, death by gunshots, poisoning and electrocutions would not even account for a third of annual intake of eagle carcasses. Also notice this important number.....The total number of eagle carcasses for the 20 year period (1963 -1984) only averaged 71 a year.

Today the Denver Eagle Repository receives over twice the number of eagle carcasses in a single year, then they did during this entire 20 year period. If the Repository ever produced the causes of death for the eagles they have received since 1997, the most prevalent causes of death would likely show gunshot (8%), trauma including turbine strikes (80%), poisoning (4%), electrocution (3%) and other (5%) because Repository eagles are killed in places where they are likely to be noticed by a person.

I have collected the reported Denver Eagle repository records for most years since 1997. These records are from published studies, Federal court cases, USFWS publications, and a Senate Report. It is important to notice that America's eagle carcass numbers and orders filled to Native Americans, has escalated right along with the development of wind energy outside CA.

1997- The National Eagle Repository filled 984 requests for whole eagles for Native Americans and 229 for eagle parts, for a total of 1244 requests filled. Many of these eagles came from CA wind farms.

1999 - Orders for whole eagle carcasses and eagle parts totaled 1260. Of the requests filled, 788 were bald eagles and 472 golden eagles

2000- the national Eagle repository sent the largest number of whole eagles to Native Americans since it first started operating. Items distributed included 1063 whole eagles and 425

eagle parts or loose feathers. The repository also received 149 eagle parts with 122 coming from bald eagles and 27 from golden eagles. The average order of loose feathers order increased from 15 to 21 per month.

2001- The repository received 1298 whole eagles 794 and 504 golden eagles as well as 176 eagle parts. With these eagles orders were filled for 1019 whole eagles and 372 eagle feather/parts.

2002 - The Repository received 1,583 eagles and eagle parts from the field during FY 2002. This total included 1,021 bald eagles and 562 golden eagles. Repository staff filled 1,549 requests from Native Americans seeking eagles and eagle parts for religious use; 1,095 whole eagles were distributed while 454 requests were filled with loose feathers or other eagle parts.

2003 - The National Eagle Repository filled 1,699 orders from Native Americans for eagles and eagle parts for religious use; 1,175 of these orders were for whole bird carcasses.

2004 - The National Eagle Repository filled 1,851 requests from Native Americans for eagles and eagle parts for religious use – a record number.

But there is also something else more sinister that has taken place. **Of the eagles being sent into the repository, more of them are now coming in much more mutilated. This is what a wind turbine blade does to an eagle, especially with the industry's massive new turbines. A direct hit from one of these turbines with their much faster blade tip speeds, will cause an eagle to explode into pieces.**

The eagle in the image below was not hit by a meteor, a stray artillery shell or a sudden change in climate. It was killed by a modern wind turbine. The man that witnessed it, then searched a large area and collected all the pieces for this image. The torso, he had to knock down from the branches of a tree.



Eagles forced to live with wind turbines end up looking like this. It is also the reason sellout conservation groups like Audubon and RSPB are making fortunes from wind energy. It is so this hideous truth remains hidden.

In 1997 when California's turbines were small and damage to eagle carcasses was less severe, 79% of Repository orders filled were for whole eagles. In the years 1997-2016 orders filled for eagle parts and feathers jumped by more than 11 times from 229- 2600.

From 2005-2018 the information released about the Denver Eagle Repository is much more

fragmented. But one thing is very clear. Carcasses being received and shipments of body parts by the Repository have escalated . **The majority of these eagle shipments are also bald eagles.**

2005 - The National Eagle Repository filled 1,805 requests from Native Americans for eagles and eagle parts for religious use.

2006 - The National Eagle Repository filled 2,237 requests from Native Americans for eagles and eagle parts for religious use.

2007- The National Eagle Repository filled 2,369 requests from Native Americans for eagles and eagle parts for religious use.

2008 - The National Eagle Repository filled 2,714 requests from Native Americans for eagles and eagle parts for religious use.

2009 - The National Eagle Repository filled 3,270 requests from Native Americans for eagles and eagle parts for religious use.

2010 – No official repository data found, but quotes in articles from Repository employees were reporting over 2000 eagle carcasses are being received annually by the Repository.

2011- No official repository data found, but quotes in articles from Repository employees were reporting over 2000 eagle carcasses are being received annually by the Repository.

2012 - No official repository data found, but quotes in articles from Repository employees were reporting in the media that over 2000 eagle carcasses are being received annually by the Repository. Filled orders for golden eagles 499 bodies and parts. Total eagle orders reported filled 2294.

2013 - The repository filled 1795 bald eagle orders for whole bodies and parts. They also

2014 - Whole and eagle parts received reported to be 2309. Other data was eliminated because I had made public the changing carcasses numbers in the regions of wind energy development.

NATIONAL EAGLE REPOSITORY ANNUAL REPORT: 10/01/13 – 09/30/14						
REGION	WHOLE EAGLES AND EAGLE PARTS RECEIVED			WHOLE EAGLE ORDERS FILLED	EAGLE FEATHER & PARTS ORDERS FILLED	COMBINED FILLED ORDERS BY REGION
	Bald No Data	Golden No Data	REGION TOTAL			
1			239	135	376	511
2			65	479	1,113	1,592
3			591	129	357	486
4			352	24	114	138
5			229	24	110	134
6			492	170	519	689
7			216	3	13	16
8			125	62	240	302
TOTAL			2,309	1,026	2,842	3,868
NEW REQUESTS RECEIVED						
	BALD EAGLES	1,176				
	GOLDEN EAGLES	1,795				
	EITHER SPECIES	1,379				
	TOTAL	4,350				

NOTES: The incoming bird count is not complete as we are still evaluating birds received in September. The final total number of birds and bird parts received will probably be about 2,400. The total number of eagles and parts shipped, as well as the number of new requests received are complete as of 10/22/14.

NATIONAL EAGLE REPOSITORY ANNUAL REPORT: 10/01/12-09/30/13						
REGION	WHOLE EAGLES & EAGLE PARTS RECEIVED			WHOLE EAGLE ORDERS FILLED	EAGLE FEATHER & PARTS ORDERS FILLED	COMBINED FILLED ORDERS BY REGION
	BALD	GOLDEN	REGION TOTALS			
1	● 186	60	246	143	384	527
2	● 30	30	60	527	1,222	1,749
3	● 547	10	557	164	446	610
4	● 281	10	291	26	119	145
5	● 206	3	209	36	166	202
6	● 256	246	502	197	558	755
7	● 273	4	277	3	13	16
8	● 16	136	152	74	260	334
TOTALS	● 1,795	499	2,294	1,170	3,168	4,338
NEW REQUESTS RECEIVED						
	BALD EAGLES	1,214				
	GOLDEN EAGLES	1,906				
	EITHER SPECIES	1,422				
	TOTAL	4,542				

NOTES:
This is why the new Dec 2016 rule was created in DC, allowing up to 4200 bald eagles to be killed annually.

2015 - The Eagle Repository was very active receiving and filling requests for bald and golden eagles and their parts. In 2015, 3,678 orders were filled and 4,155 new requests were received.

2016 - The Eagle Repository received a total of 2,736 whole eagles and eagle parts; 2,273 were bald eagles and 463 were golden eagles. A total of 3,957 orders were filled – 2,600 for eagle feathers and eagle parts and 1,357 for whole eagle orders.

Until yesterday I had not reviewed these Repository statistics for several years. But for everyone looking at them, it should be easy to see, **by adding a conservative estimate of 2700 dead eagles for 2017 and 2018, the Denver Repository has processed the remains from over approximately 43,000 dead eagles since 1997.**

Remember these are 43,000 plus eagle carcasses for which no cause of death or their origin has been made public by Interior department. My estimate for the origin of these eagles is that at least 50% of these eagles are wind turbine related and 66% is probably more accurate. Lastly keep in mind that wind farms do not find or even report all eagle fatalities. I know this from a lengthy interview I had with an employed Wind Tech.

As I stated earlier, how can Shasta County officials or anyone for that matter, fairly mitigate wind project impacts when so many lies about these projects are sitting the table?

GOVERNMENT WANTS ACCURATE RECORDS

Gate City Becomes Repository for Eagles

By GARY HADEN,
Journal Regional Editor

Wanted dead or alive, eagles are a popular commodity so much so the federal government has sent a man to Pocatello to keep track of the big raptors.

James R. "Bob" Norris, a special agent of the U. S. Fish and Wildlife Service for 18 years, would prefer to see eagles flying freely, but the nature of his new job means he won't see most birds until they've been hit by cars, electrocuted, poisoned or shot from the sky.

Interest in eagles has developed on several fronts in recent years. News that a sheep rancher had commissioned the killing of hundreds of eagles in Wyoming in 1972 angered environmentalists; at the same time Indians were developing more interest in the use of eagle parts in traditional religious customs.

Since federal law makes killing eagles illegal, Indians now must rely on birds and parts distributed by the U. S. Fish and Wildlife Service.

Previously, Norris explains, each special agent collected birds himself or accepted them from others who found them. The birds were then distributed to Indians who had to apply first to a FWS regional office at Portland, Ore., Albuquerque, N.M. or elsewhere in the U.S.

No overall record of eagles found dead or injured was

maintained. Indians were frustrated by a bureaucracy which had to authenticate each one's sincerity, and no one knew how many eagles might be obtained from different agents for furnishing into illegal channels.

At the same time religious Indians wanted more feathers, whites became caught up in buying supposedly authentic Indian artifacts made with feathers. The Interior Department, parent organization of the Fish and Wildlife Service, last month announced the arrest of more than two dozen whites and Indians in Oklahoma in connection with illegal selling and possession of feathers.

The sellers, the department reported, were offering fake Indian artifacts made from bald and golden eagles and about 20 other migratory birds. The illegal business, the Interior department says, "seen eagle carcasses selling on the black market for as high as \$125 each." As many as 18 eagles must be killed to make one war bonnet. One fan made solely from tail feather of the scissor-tailed flycatcher, which sold for \$600, required the killing of 38 birds.

Despite reassurance by the Interior department, many Indians looked upon the arrests as a threat to their right to possess feathers. Indians around the country were reported by the New York Times to be buying their ceremonial costumes.

Kentil Banning, FWS special agent for the Eastern Idaho district, says the recent arrests and the creation of a repository is in no way designed to prevent sincere Indians from practicing religious beliefs.

"I have 35 or 40 requests for eagle parts from Indians right now, and I get an occasional request from educational institutions for a whole bird," Banning explained.

"Any Indian can apply for parts for religious purposes as long as they are compatible with the preservation of the number of birds. There can be no bartering, selling or trading of parts, but the headresses and other symbols may be handed down from generation to generation in accordance with Indian traditions," the agent explained.

Norris says he's unsure exactly what his duties or job title will be, but expects the most important part of his job will be to collect all birds possible, to record the collection and to distribute them promptly to Indians who want them.

"We're not sure exactly how many birds we'll get, but we expect to get all of the birds found dead or wounded in the Western states. We may get all birds from the six regions in the U.S., and we should surely get all the golden found dead," Norris said.

"It wouldn't make much sense for our Boston Region," to send bald eagles to the repository," Banning explained, "because Western Indians wouldn't be interested in them and we'd just have to send them back for use by an eastern tribe. As far as Western tribes are concerned, bald eagles don't exist," Banning explained.

The number of birds collected and distributed could be substantial. Banning says he receives from 25 to 70 birds yearly from an area of Idaho roughly east of a line from

Salmon south to Glenn's Ferry, and Neal Argy, Boise, special agent for the western portion of the state, says he was handling as many as 100 birds five years ago and will probably receive from 30 to 50 birds this year. (The reduced number, he explains, is due to the fact fewer birds winter in the state since a decline in the rabbit population.)

Birds received from the 27 agents in the Northwest Region and from elsewhere in the country will be examined at the repository on Dillon Street for cause of death, Norris said.

Those which died from no apparent cause will be shipped to the FWS Research Laboratory in Denver, Colo., for necropsy and then sent back for distribution. Eagles may also be tested for pesticide and poison levels. If a pathologist can be found in this area, injured birds will be rehabilitated at the Pocatello center and released on Camas Creek Wildlife Refuge near Hamer, Idaho.

Causes of death and injury vary. Banning says he's seen only seven or eight birds which died of bullet wounds in his five and one-half years in the Pocatello office. Argy estimates that 40 per cent of the birds found in the western portion of the state die from electrocution, and 40 per cent die from shooting and a variety of accidents. The remainder die from apparently natural causes. From 80-90 per cent of the birds collected are golden eagles, and only five per cent collected are alive, the agents estimated.

Argy says deaths due to hunters are decreasing because of better education, and Argy and Banning both are optimistic that a study and subsequent implementation of an Idaho Plover program will reduce the number of birds electrocuted when they land on power lines.

Stiffer penalties for anyone killing eagles also may reduce the toll. The penalty for a first offense of killing eagles is a maximum of \$5,000, or not more than a year in jail or both. In the case of a subsequent violation, the maximum penalty can be doubled.

There's also a provision in the Eagle Protection Act which says "one-half of any fine, not to exceed \$2,500, shall be paid to person or persons giving information which leads to conviction" of anyone killing eagles.

Finally, there's a provision added to protect eagles from livestock owners who kill eagles because they believe the birds endanger young animals. The law grants federal agencies which issue grazing leases the power to cancel such leases if the lessee is convicted of killing eagles.

While Norris is trying to get the feel of his new job, the eagles continue to come in. During an interview with Banning, Lee Hetchkins, manager of Bear Lake National Wildlife Refuge, called to report finding an eagle carcass, and Norris has been ordered driven to Denver to pick up a load of dead birds at the Research Laboratory.

Norris, a native of Longview, Wash., who worked six years with the Washington Fish and Game Department prior to going to work with the FWS, has bought a house in the Northgate Addition where he will live with his family.

Crookham Squashes Talk of Candidacy

CALDWELL (Special to the Journal)—Former Republican state senator Bill Crookham has let friends and political supporters know that he is not inclined to run for Congress this year.

Those friends and backers had been urging Crookham to shift over to the Democratic party and make a race against Rep. Steve Symms. Crookham has said he would enjoy the campaign but is not ready to take on the problems of politics

now. Enjoying a good contest, he said, is not a proper motive for running for office.

Meanwhile, another Canyon County Republican says he will announce his political plans on Monday. Senate Majority Leader Phil Batt of Wilder is expected to say he won't run for reelection. He has been urged to try for higher office, and has not indicated whether his Monday statement will announce any plans of that kind.

School Offers Class In Caring for Child

A decades old newspaper clipping talks of accurate repository records. Of course, today our Government wants nothing to do with keeping accurate records for the tens of thousands of eagle carcasses that have been shipped to the Denver Eagle Repository.



Conclusion

What I have to say to Shasta County is important because I am a very credible expert. With these comments I have presented factual information about this industry and submitted proof of the fraudulent research that was conducted at Hatchet Ridge.

The lies by omission, the fraud and rigging associated with these wind projects, is real. It is so bad that to my knowledge there are have been no scientifically credible turbine mortality studies that have taken place in the US after 1985. At this time the only way Shasta County officials can approve the Fountain wind project, is to look the other way, accept fraudulent opinions fortified with rigged research and once again become part of this disgustingly perverted process.

For any Shasta County Officials that are troubled by what I have written, I suggest you have a public hearing or debate. Invite the industry and the USFWS

to bring in their army of credentialed sell out experts. Let them try to defend any of the species impact and mortality studies conducted after 1985 with me present. I will only have to ask a few questions to smoke them all out.

If such a hearing does take place, I will present what I believe to be absolute proof of criminal research fraud that took place at Hatchet Ridge.

Jim Wiegand
Redding, CA
530 2225338

Stantec has a history of conducting nonscientific research

It is important to bring this up because I have seen a very consistent pattern with Stantec's research. They consistently choose research methodologies that exclude important data.

I first became acquainted with Stantec research after I read over a 2009 survey conducted on behalf of Iberdrola concerning peregrine falcon use in the region of the proposed Groton New Hampshire Wind project. The [peregrine falcon survey](#) for the project was severely flawed because researchers did not even try to observe the falcons when they would be the most active. Peregrine falcons are very active during their daily dawn and dusk hunting activity. They are also very active during courtship rituals in the Spring.

Yet the stated objective of the survey was to investigate whether peregrine falcons use the Project area. These observations were critical because it is during these behaviors the falcons are the most likely to be using the project site. It is also during these distractive behaviors that a collision with a turbine is the most likely.

Even the observers themselves noted this flaw in the survey methodology with the following statement; "Therefore, the results of the 2009 surveys cannot describe peregrine activity during all daylight hours during the period of interest, or describe activity across the entire Project area."

Yet Iberdrola, in their Executive Summary for the project, boldly makes the following statement based upon this survey; " Rare, threatened, or endangered bird species that were documented in the Project area during these surveys include peregrine falcon (state- listed threatened), bald eagle (state-listed threatened), and common loon (state- listed threatened). **None of these species** reside within the project area.

No federally-listed threatened or endangered birds were observed during any of the field surveys."

This statement is false. I am an expert on Peregrine Falcon behavior and know with complete certainty, these falcons did utilize the air space located in their hunting territories above the proposed Groton Wind Project site.

Impossible post operational wind turbine research

What I am presenting next is about the easiest to understand and crystal-clear proof pertaining to Stantec's nonscientific research. As I will show, using the data from past wind turbine mortality studies, the results from Stantec's wind turbine mortality studies are not even remotely possible with operating wind turbines spinning with tip speeds of 175-200 mph. Stantec's reported carcass distances around turbines defies all logic including Newton's laws of motion, inertia and gravity. Stantec may be following Canadian Ministry or USFWS wind turbine research guidelines with their studies, but this research isn't scientific and their results have been consistently impossible.

Below are a few of published distance locations for thousands wind turbine carcasses collected over a several decades period. There are many studies with similar carcass distance data. When looking over this wind industry mortality data, notice the recorded carcass distance locations. With this data, about 50-80% of all carcasses were reported at distances beyond the turbine rotor sweep or the turbine blade length out from turbine towers. This data represents what a turbine blade does to birds and bats upon impact. Carcasses are launched with great force into wind currents.

Wind turbine carcasses distribution from Altamont pass around small turbines. Most of the carcasses found were reported far beyond turbine blade lengths.

Prepared for the:

Planning Departments of
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Prepared by:

BoSystems Analysis, Inc.
Tiburon, CA

Principal Authors:

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Anne Flannery

***Wind Turbine Effects on Avian Activity,
Habitat Use, and Mortality
in Altamont Pass and Solano County
Wind Resource Areas***

1989-1991

Final Report
March 1992

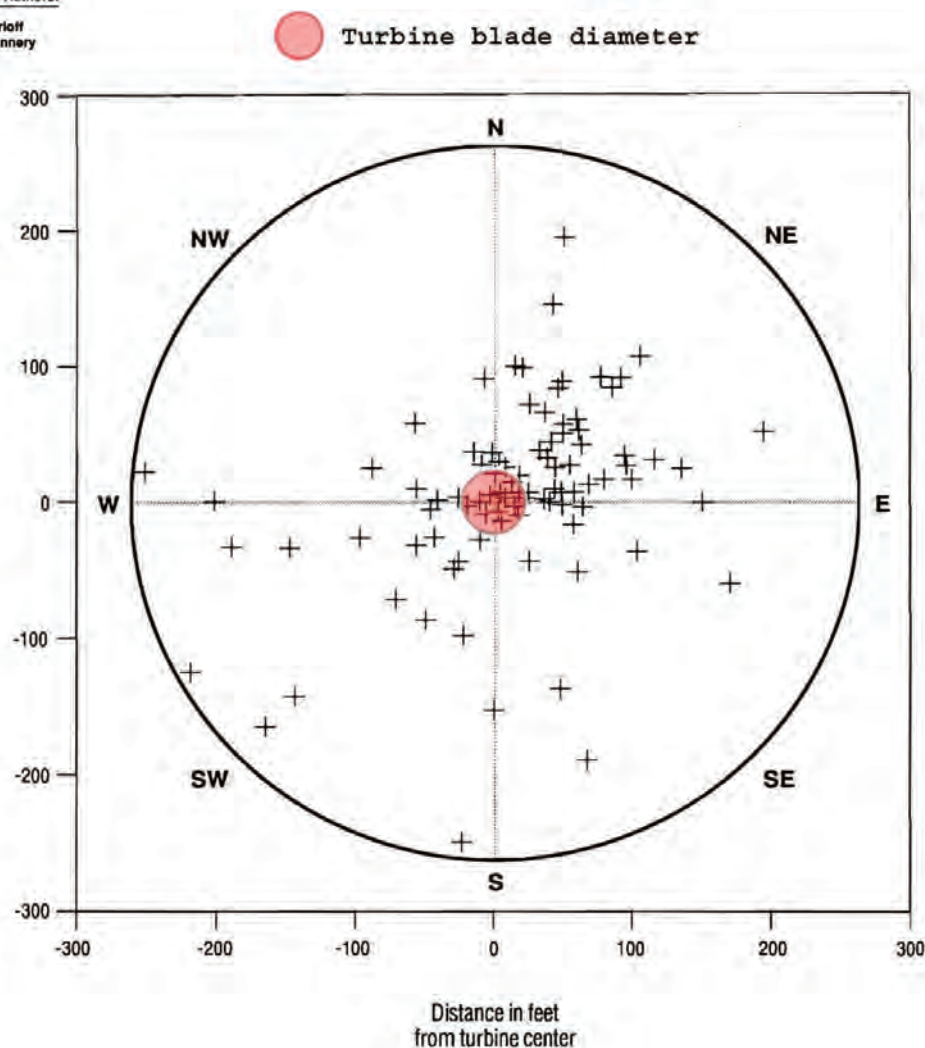


Figure 3-22. Locations of mortalities in relation to turbine centers.

Carcass distribution for 631 small-bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

Small-bodied Birds

Our search radius included 90.5% of the carcasses of small-bodied bird species (Figure 2-9B), of which 75% were located within 34 m of the tower. The mean and standard deviation of these 631 distances was 23.8 ± 19.4 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest (Figure 2-10B), just as the large-bodied bird carcasses had been distributed.

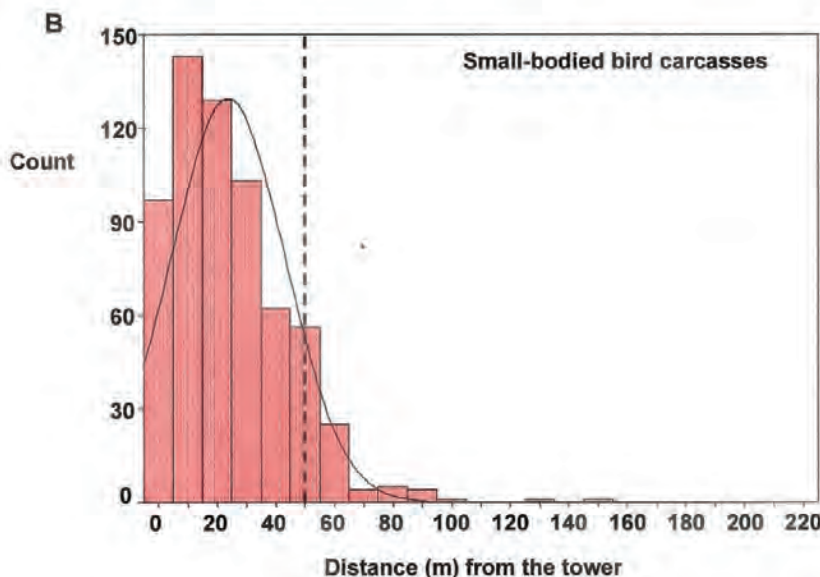


Figure 2-9. Frequency distributions of distance from the wind tower among carcasses of large-bodied (A) and small-bodied (B) bird species

^a Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.

^b Set 2 includes 2,548 wind turbines (267.090 MW) in the November 2002–May 2003 rotation.

^c Set 3 includes the 1,326 wind turbines (161.750 MW) not included in any search rotation. Mortality for Set 3 was estimated by taking the weighted average from the two sampled sets of wind turbines ((mortality of Set 1 \times 151.165 MW) + (mortality of Set 2 \times 267.09 MW)) \div 418.255 MW.

Smallwood, K. S., and C. G. Thelander, Developing Methods to Reduce Bird Fatalities in the Altamont Wind Resource Area, Final Report by BioResource Consultants to the California Energy Commission, Public Interest Energy Research – Environmental Contract No. 500-01-019 (L. Spiegel, Project Manager), 2004.
http://altamontsrc.org/alt_doc/cec_final_report_08_11_04.pdf

Carcass distribution for 468 large bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

2.3.2 Distances of Bird Carcasses from Wind Turbines

Large-bodied Birds

Our search radius included 84.7% of the carcasses of large-bodied bird species determined to be killed by wind turbines or unknown causes (Figure 2-9A). Of these, 75% were located within 42 m of the tower. The mean and standard deviation of these 468 distances was 31.1 ± 30.0 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest of the tower (Figure 2-10A).

Carcass locations of large-bodied bird species differed significantly by distance from wind turbines according to five ranges of tower heights (ANOVA $F = 3.66$; $df = 4, 456$; $P = 0.006$), and post-hoc LSD tests revealed that fatalities were located farther from 25-m and 32-m towers (means = 33 m and 57 m) than shorter towers (mean = 28 m for 14-m towers, and 26 m for 18.5-m towers) or 43-m towers (mean = 28 m). Distance from tower increased with tower height, according to linear regression analysis, although the precision of the model was poor (Figure 2-11A).

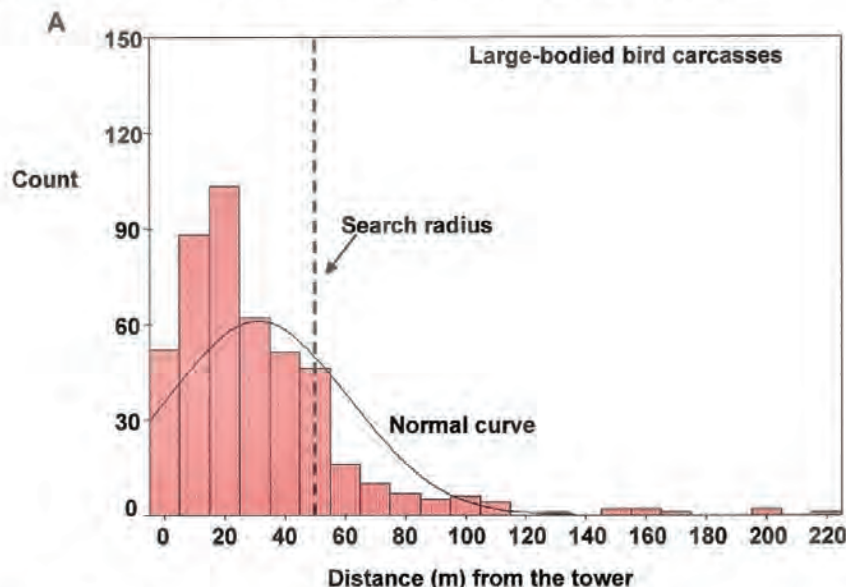


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November 1998 - June 2002

This initial construction phase of the Foote Creek

Rim wind plant (hereafter referred to as FCR I) is comprised of 69 600-kilowatt Mitsubishi turbines (41.4 MW capacity)

During this study 43 of 79 bats were found at or beyond the 21 meter turbine blade length.

Appendix B. Bat mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
232	Hoary Bat	8/29/01	Yes	T 50	10	Intact carcass
233	Silver-haired Bat	9/3/01	No	T 58	15	Intact carcass, found by Jeff Gruber (UW) during bat studies on FCR
234	Hoary Bat	9/13/01	Yes	T 22	57	Intact carcass but decomposed
253	Little Brown Bat	6/3/02	Yes	T14	40	Intact carcass

^a matches log no. on Figure 1

^b T = turbine; M = meteorological tower (met tower)

At turbine plots, avian casualties were located between 4 and 77 m from the turbines with an average distance of 37.7 m.

¹ The carcasses found at distances too great to determine if they were associated with a wind plant turbine or met tower were all found incidentally during other wildlife studies (e.g., raptor point counts).

Appendix A. Avian mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
158	Common Nighthawk	7/27/00	No	unk	-	Intact carcass; 1m south of road, compressed by truck tire, 140m from T 40
175	Rock Wren	8/29/00	Yes	T 23	47	Intact carcass; left eye scavenged; broken left wing, broken ribs
179	Horned Lark	9/5/00	No	unk	-	Feather spot; possible mammal scavenging; 168 m from T 68
182	Townsend's Warbler	9/11/00	Yes	T 11	28	Dismembered carcass; torso, head, wings missing
183	Wilson's Warbler	9/12/00	Yes	T 31	30	Dismembered carcass; part of head, most of tail, 1 wing and body feathers
185	Townsend's Warbler	9/12/00	Yes	T 40	61	Dismembered carcass; head and torso missing
188	White-crowned Sparrow	9/26/00	No	unk	-	Intact carcass; fresh carcass, no visible injuries; 184 m from T 36

FCR I. The Mitsubishi turbines in FCR I are approximately 131 ft (40 m) tall at the nacelle with a rotor diameter of 138 ft (42 m). Tower (turbine) spacing in FCR I is approximately 276 ft (84 m).

Post-Construction Avian Monitoring Study for the Shiloh I Wind Power Project
Solano County, California
Year One Final Report September 2007

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

Species Size Group	Distance Range (meters)														Total
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200	
Small Bird	5	1		1	2		1	6	3	8	3				30
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109
Large Bird	3	1	2	1	1	1	1	1	2	3	1	1	2	1	21
Unknown Bird Species*						1	1	2	1	4					9
Bat	3		4	7	15	9	3	6	4	1					52
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221

* All unknown bird species were small or medium sized passerines

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen because of temporary high visibility conditions periods during crop rotations. Search intervals were approximately once a week and as a result many of the fatalities were missed.

Of these reported carcasses 163 or 76% were found beyond the 38 meter blade lengths.

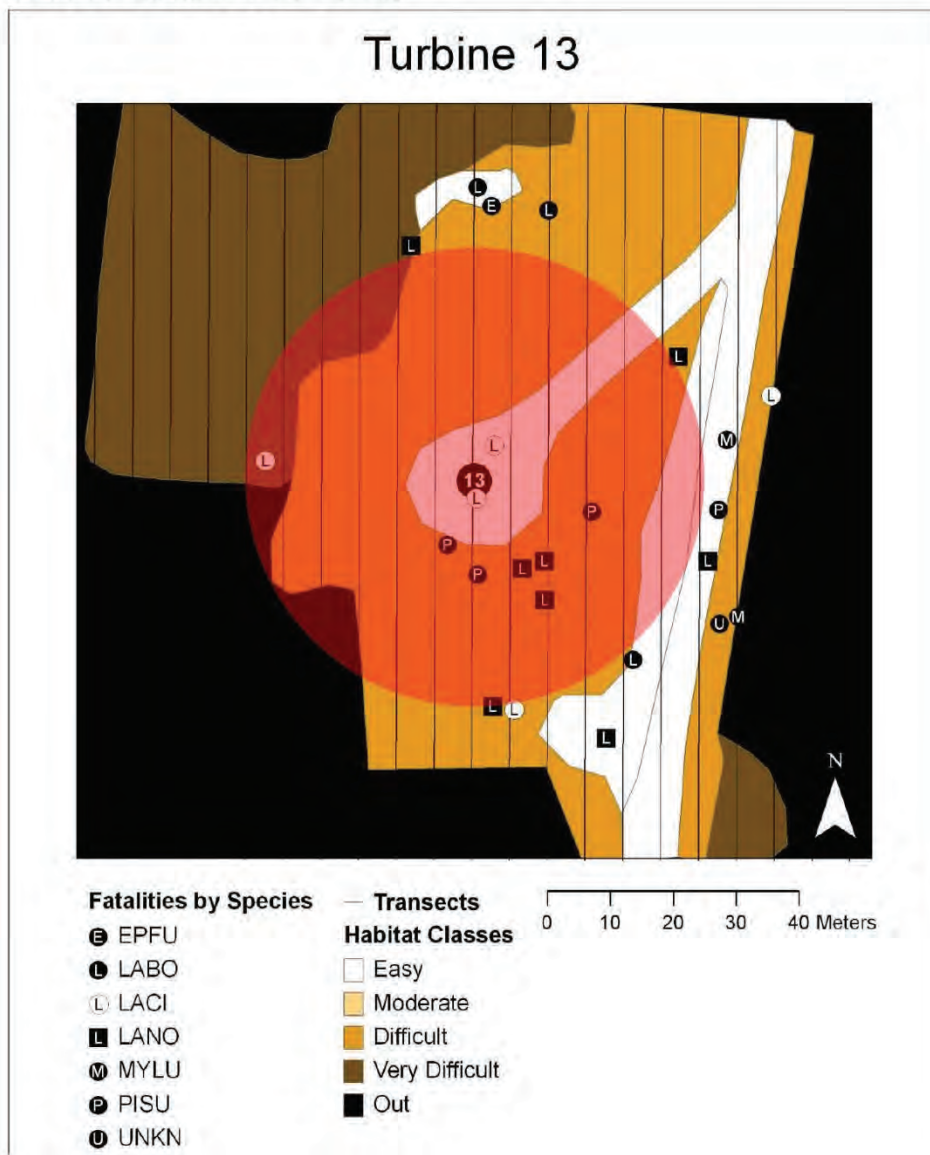
Here is more proof showing wind turbines of just 1.5 MW launching tiny bat carcasses far beyond turbine blade length. The red circle represents rotor sweep. As seen here, when searching in easy terrain many more bats were found far beyond the turbines rotor sweep.



**Patterns of Bat Fatality at the Casselman Wind Project
in south-central Pennsylvania
2008 Annual Report**

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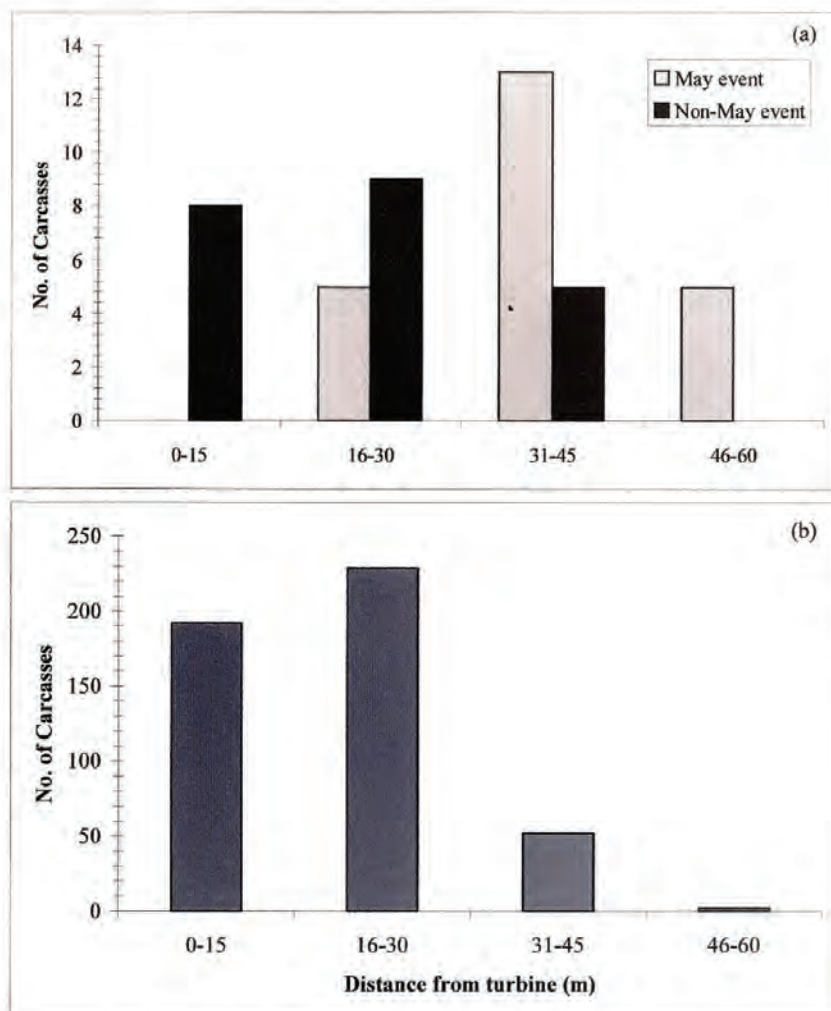
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2008 Annual Report**

Arnett, E. B., M. R. Schirmacher, M. M. P. Huso, and J. P. Hayes. 2009. Patterns of bat fatality at the Casselman Wind Project in south-central Pennsylvania.

Figure 7. Distances of (a) nocturnal migrant songbirds and (b) bat carcasses from the turbine base (in meters).



Bat Fatalities.

Summary of Fatalities of Bats. A total 475 bat carcasses of 7 species were found during the 23 rounds of searches at the MWEF (Table 5). Red bats were most numerous, accounting for 42.1% of all carcasses found, with hoary (18.5%), eastern pipistrelle (18.3%), little brown (12.6%), silver-haired (5.9%), northern long-eared (1.3%), big brown (0.4%), and unidentified (0.8%) bats accounting for the remainder.

Curry & Kerlinger, LLC –2-14-04

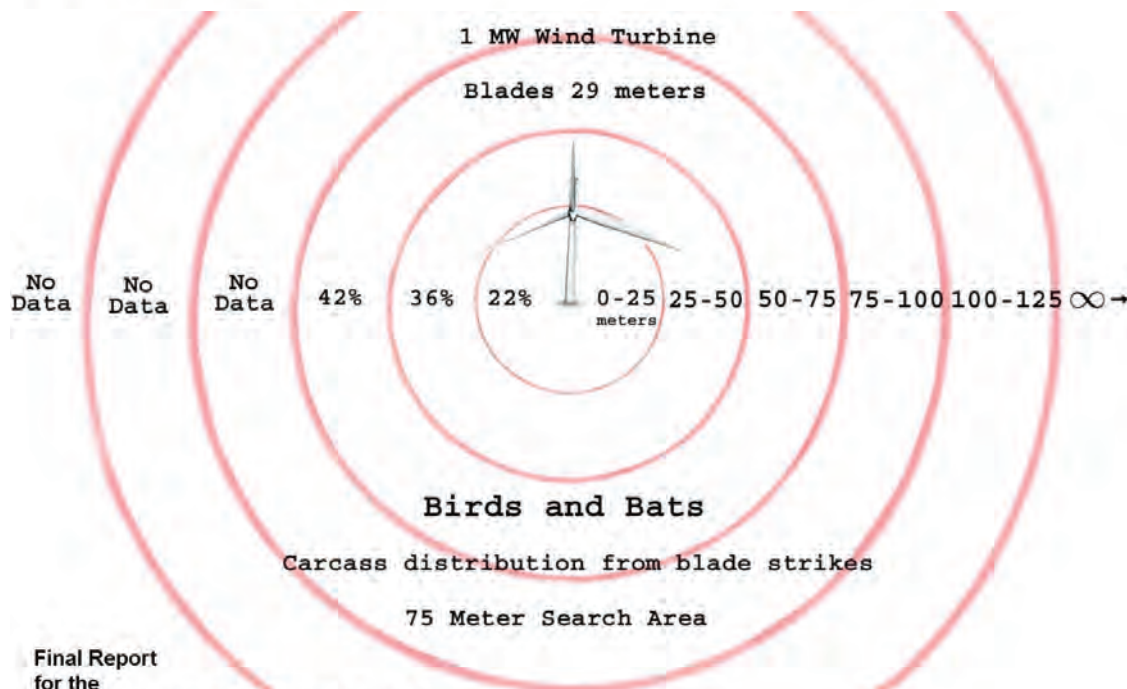
NEG Micon 1.5 MW wind turbine, 34 m rotor blades
Using undersized search areas in difficult search terrain

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	4,807 (99.3%)	38 (<1%)	4,845

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.



Final Report
for the
Buena Vista Avian and Bat Monitoring Project
February 2008 to January 2011

Insignia Environmental (Insignia) on behalf of the Contra Costa County
Department of Conservation and Development

"Turbine and tower characteristics are as follows: 80-meter (m; 262.5 feet [ft]) hub height, 41-m (134.6 ft) blade length, 5,281-square meter (m²; 56,844 square feet [ft²]) rotor swept area, and 14.4-rotations per minute (rpm) rotor speed. The rotor swept area extends from 39 m (127.1 ft) above ground level (agl) to 121 m (396.1 ft) agl."

Table 9. Number of bird carcasses found at each range of distances from the turbine during the 2010 mortality surveys at the Cedar Ridge Wind Farm.

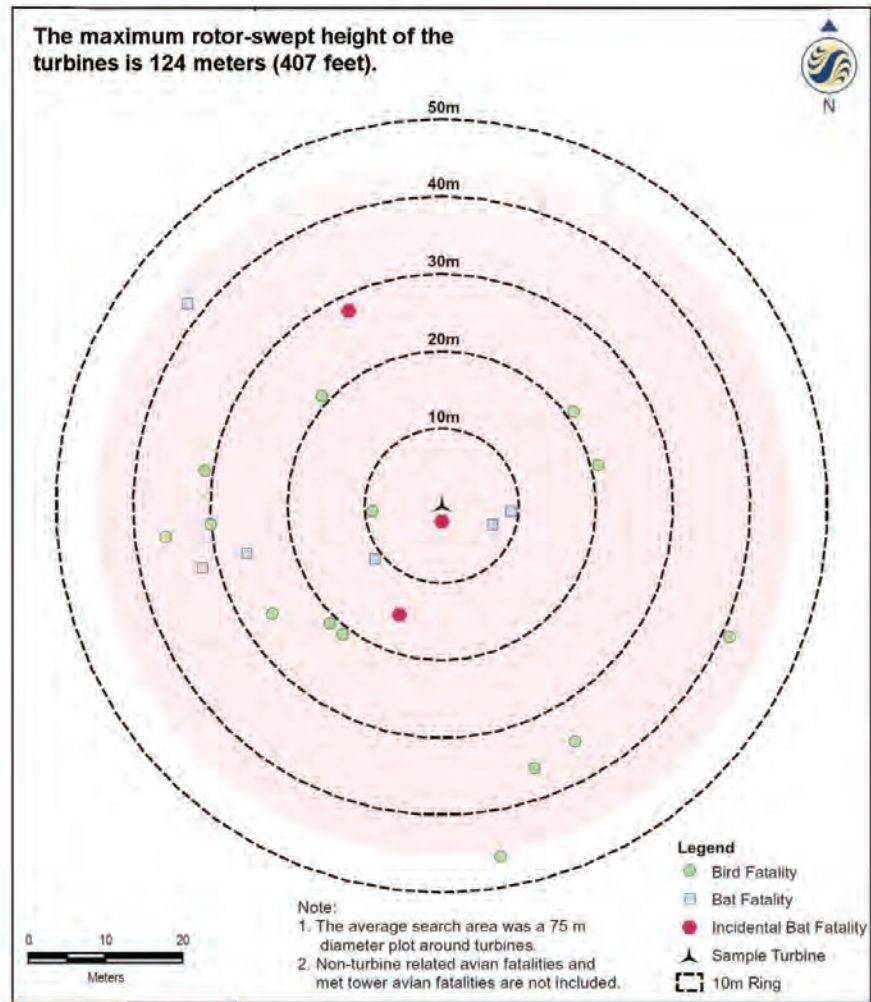
Distance to Turbine (m)	Number of Bird Carcasses	Proportion of Bird Carcasses (percent)
0 to 9	0	0.0
10 to 19	0	0.0
20 to 29	3	12.5
30 to 39	2	8.3
40 to 49	3	12.5
50 to 59	4	16.7
60 to 69	1	4.2
70 to 79	5	20.8
80 to 89	4	16.7
90 to 99	1	4.2
100 to 109	1	4.2

Estimated carcasses beyond 41 meter blade length 79%

Final Report
Prepared for:
Wisconsin Power and Light
4902 North Biltmore Lane
Madison, Wisconsin 53718-2148

Now look at a few results from Stantec research

One carcass was reported beyond 44 meter blades



Stantec Consulting Services Inc.
30 Park Drive
Topsham, ME USA
04086
Phone (207) 729-1199
Fax: (207) 729-2715
www.stantec.com

Client/Project
TransCanada Hydro Northeast, Inc.
Kibby Wind Power Project
Franklin County, Maine

Figure No.
2-5

Title
Summary of Carcass Distances
and Directions from Study Turbines
11/20/2011

As the turbines have grown in size, the blade impact points are reach further out from turbine bases. Industry blades that were once 5-9 meters long are now 50-60 meters long. These new turbines are also 4-5 times taller. **Stantec's mortality research data does not account for bird or bat impact points that are now 50-60 meters out from turbine bases.** In fact, of the hundreds and hundreds of carcasses reported by Stantec, about 99% are reported at distance locations from towers less than the length of

the turbine blades. Instead of reporting 50-80% of carcasses being found at distances beyond the blade lengths, they report the opposite with an average distance of about 1/2 a turbine's blade length.

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
01-Feb-10		46	0385918 4880656	CF	Bird Sp.	bird	Old - at least 3 days		13	62	E	Soil
08-Feb-10		81	0389704 4894002	WS	Red-tailed Hawk	bird	frozen - less than 5 days	bent wing	23	253	W	Soil
09-Feb-10		30	0384145 4890354	WS	Bird Sp.	bird	complete - >30 days		44	40	N	Soil
16-Feb-10		69	0384733 4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12	18	N	Soil
22-Feb-10		72	0385540 4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing	16	166	S	Gravel
04-Mar-10		55	0387550 4889924	JL	Bird Sp.	bird	Fresh, 1-2 days		40	270	W	Soil / Veg
10-Mar-10		65	0384733 4886852	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10		61	0390023 4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15	194	S	Soil
23-Mar-10		43	0390564 4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34	350	N	Gravel
29-Mar-10		1	0381112 4890726	CF	Starling	bird	Fresh, 1-3 days	Neck	12	270	W	Soil
31-Mar-10		29	0384748 4886878	JL	Blue Jay	bird	Old, 3-4 days		14	210	SW	Soil / Veg
31-Mar-10		41	0387552 4886856	CF	Starling	bird	Fresh, 1-2 days	Neck	44	44	NE	Soil / Soybean / Veg
05-Apr-10		72	0387700 4892945	WS	Horned Lark	bird	Fresh, <3 days	Trauma, left side	31	215	S	Soil
06-Apr-10		30	0385820 4890285	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma	15	319	N	Grass
08-Apr-10		18	0381634 4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19	110	E	Mud / Veg
09-Apr-10		61	0384123 4890372	JL	Red-tailed Hawk	bird	Fresh, <2 days	Neck / Leg	31	105	E	Veg / Soil
12-Apr-10		38	0387277 4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9	90	E	Gravel
13-Apr-10		9	0380923 4890046	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body	19	270	W	Gravel
14-Apr-10		29	0384729 4886854	WS	Red-tailed Hawk	bird	Fresh, <3 days	Decapitated	26	110	E	Soil
14-Apr-10		30	0384732 4886839	WS	Wilson's Snipe	bird	Old, >5 days		6	160	SE	Grass
15-Apr-10		27	0382244 4891308	JL	Red-tailed Hawk	bird	Fresh, <1 day	Neck (?)	8	330	N	Soil / Rock
16-Apr-10		64	0386550 4893697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck	40	330	N	Hay / Mud
21-Apr-10		49	0387565 4886888	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1	159	S	Gravel
22-Apr-10		9	0380804 4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28	260	W	Grass
23-Apr-10		56	0385846 4890236	JL	Mallard	bird	Fresh, <1 day	Neck / Head	10	235	SW	Soil
23-Apr-10		79	0384852 4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10	50	NE	Soil / Veg
26-Apr-10		2	0382125 4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless	31	320	N	Swamp
26-Apr-10		1	0380953 4891108	WS	Mallard	bird	Fresh, <3 days	Footless	35	320	N	Grass
26-Apr-10		65	0381077 4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31	80	N	Grass
26-Apr-10		26	0382110 4891660	WS	Wilson's Snipe	bird	Fresh, <3 days	Broken neck	0	40	N	Tower base
28-Apr-10		63	0386780 4893376	JL	Tree Swallow	bird	Old, 2-3 days		40	350	N	Soil / Veg
28-Apr-10		73	0387728 4892954	WS	Bird Sp.	bird	Fresh, <3 days	Broken neck	22	100	E	Soil
28-Apr-10		24	0382773 4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	48	300	NW	Veg / Soil
03-May-10	2	43	0390538 4891543	JL	Osprey	bird	Really Fresh, <12 hours	Head	15	135	SE	Soil
04-May-10	2	71	0384293 4893473	WS	Ring-billed Gull	bird	Unknown		40	110		Mud
05-May-10	1	31	0384987 4898113	CF	Mallard	bird	Fresh, 1-3 days	Neck	27	82	E	Soil
05-May-10	1	72	0385876 4892975	CF	Upland Sandpiper	bird	Fresh, 1-2 days	Wing	44	283	W	Vegetation
06-May-10	2	34	0384070 4887239	WS	Black & White Warbler	bird	Fresh, <3 days	Nothing visible	38	220		Rock
06-May-10	2	34	0384008 4893473	WS	Savannah Sparrow	bird	Fresh, 3-5 days		27	86		Soil
07-May-10	2	71	0386358 4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294 4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385868 4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933 4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381971 4892264	CF	Baltimore Oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
17-May-10	2	33	0384514 4887219	JL	Magnolia warbler	bird	Fresh, 1-2 days	Wing/Neck	40	315	NW	Soil
17-May-10	2	78	0385183 4890985	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	31	78	E	Vegetation
18-May-10	2	25	0382723 4890484	CF	Philadelphia Vireo	bird	Fresh, 1-2 days	Abdomen	9	40	NE	Vegetation
20-May-10	2	23	0382112 4890306	JL	Horned Lark	bird	Old, > 7 days		41	160	S	Soil / Veg
21-May-10	2	64	0384399 4893759	JL	Red-winged Blackbird	bird	Fresh, 1-2 days	Neck?	29	130	SE	Gravel
24-May-10	2	65	0382179 4892621	WS	Upland Sandpiper	bird	Fresh, < 5 days	Entirely	39	180		Soil
27-May-10	2	46	0389906 4890719	WS	Mourning Dove	bird	3-5 days	Mangled	37	172		Weeds
31-May-10	2	35	0384235 4887843	JL	Ring-billed Gull	bird	Fresh, 2-3 days	Neck	20	95	E	Soil / Veg
31-May-10	2	24	0389903 4890711	WS	Ring-billed Gull	bird	Old, > 5 days	Entirely	34	220		Grass
08-Jun-10	2	68	0386462 4891880	WS	Bobolink	bird	Old, 2-5 days	Entirely	38	234		Cornfield
10-Jun-10	1	75	0384512 4892590	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	16	22	N	Soil / Veg
10-Jun-10	2	24	0382751 4890005	JL	Ring-billed Gull	bird	Fresh, 1-2 days	Wing / Neck	35	345	N	Soil / Veg
11-Jun-10	2	38	0387304 4887585	WS	Ring-billed Gull	bird	Unknown, feathers only, body has been scavenged		17	234		Soil
16-Jun-10	1	56	0385779 4890243	CF	Ring-necked Pheasant	bird	Fresh, 1-2 days	Neck?	1	194	S	Soil / Veg
18-Jun-10	2	20	0381632 4889279	WS	Killdeer	bird	Feathers only	? Scavenged	40	249		Grass
21-Jun-10	2	42	0386325 4889071	JL	Tree swallow	bird	Fresh, 1-2 days	Wing / Neck	23	320	NW	Veg / Soil
22-Jun-10	1	9	0380911 4890059	JL	Common Grackle	bird	Old, 3-4 days		16	255	W	Gravel
22-Jun-10	2	67	0386811 4891257	WS	Mourning Dove	bird	Fresh, < 3 days		1	200		Soil
23-Jun-10	1	31	0384874 4888158	WS	Wood Thrush	bird	Old, > 3 days	Entirely	29	165		Gravel
24-Jun-10	2	46	0389914 4890729	CF	Tree swallow	bird	Fresh, 1-2 days	Wing?	30	172	S	Gravel
25-Jun-10	2	42	0386302 4889048	CF	Wilson's Snipe	bird	Completely (maggots) 3-4 d	Neck	32	78	E	Gravel

landing at a distance beyond a turbines blade length.

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
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ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.

According to Altamont research around their 100kW turbines, a fraction of the size of those in Stantec studies, wind turbine carcasses travel much further in California. St Lawrence county can expect similar Post Operational studies from Stantec with their impossible nonscientific results.



I have yet to read a single wind industry related study or survey conducted by Stantec, that I consider credible. The results and opinions derived these planned bird and bat surveys, should never be accepted by St. Lawrence County or anyone else in New York.

From: wiegand@awwwsome.com
Sent: Friday, February 15, 2019 9:53 AM
To: [Lio Salazar](#)
Cc: david.benda@redding.com; trollhollow@aol.com
Subject: Additional comments For Fountain Wind Project
Attachments: North ridge {59519B13-6A3F-404F-A655-554182D7A969}.pdf

Hi Lio, It appears that the services of Stantec are being used for the Fountain Wind Project. Please read over and submit this information perrtaining to Stantec's research as part of my comments. This is important because nothing I have seen to date, with regards to wind energy research from Stantec has any credibility The Shasta County planners and public need to know this.

FOUNTAIN WIND PROJECT

Appendices
April 6, 2018

Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the environmental review associated with Project Use Permit 16-007. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

Agency	Commenter	Comment Date
Burney Fire Protection District	Monte Keady, Fire Chief	January 15, 2018
California Department of Fish and Wildlife	Curt Babcock, Habitat Conservation Program Manager	March 2, 2018
California Department of Fish and Wildlife	Kristin Hubbard, Environmental Scientist	March 7, 2018
California Department of Transportation	Marcelino "Marco" Gonzalez, Local Development Review & Regional Transportation Planner	January 31, 2018
Central Valley Regional Water Quality Control Board	Dannas J. Berchtold, Engineering Associate Storm Water & Water Quality Certification Unit	February 5, 2018
Frontier Communications	Chuck Wadowski, Engineer Senior Network Design	January 11, 2018
Pit River Tribe	Brandy Madaniels, Madesi Band Cultural Representative for The Pit River Tribe	February 10, 2018
Shasta County Assessor / Recorder		January 16, 2018
Shasta County Air Quality Management District	John Waldrop	January 16, 2018
Shasta County Fire Department	Jimmy Zanotelli, Fire Marshall	February 1, 2018
Shasta County Office of the Sheriff	Lt. Tyler Thompson, Burney Patrol Station	February 8, 2018
Shasta Mosquito and Vector Control District	Darcy Buckalew, Administrative Office Manager	January 12, 2018
Wintu Audubon Society	Bruce Webb And Janet Wall, Co-chairs Conservation	February 14, 2018

FROM THE DESK OF

THOMAS D. WHITESELL

February 18, 2018

Via Email

Honorable Kathleen H Burgess, Secretary to the PSC

Re: Case 16-F-0268, Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the North Ridge Wind Energy Project in the Towns of Parishville and Hopkinton, St. Lawrence County.

Dear Secretary Burgess,

Please add the attached article by wildlife biologist, James Wiegand, to the filed documents for Case 16-F-0268: "Bird & Bat Report on the North Ridge (Atlantic Wind) Wind Energy Project, Hopkinton NY."

Mr. Wiegand begins his critique of Stantec's North Ridge bird & bat report with the following sizzler:

I have looked over the bat and avian surveys planned for the DRAFT NORTH RIDGE WIND PROJECT. From my expert viewpoint, these planned surveys are severely flawed and for many reasons could never produce a truthful or conclusive assessment for the species that will impact-ed by these turbines.

I have been an independent wildlife researcher for nearly 50 years, with field experience that few can match. I am an expert on raptors and have extensively analyzed wind industry-related research from as far back as the mid-1980's. I also have a BS degree in Wildlife Biology from UC Berkeley.

Sincerely,



Thomas D. Whitesell

Party to Case No. 16-F-0268

**Bird & Bat Report
on the
North Ridge (Atlantic Wind)
Wind Energy Project,
Hopkinton NY**

by
James Wiegand *

On behalf of the
Concerned Citizens for Rural Preservation
Parishville & Hopkinton NY

February 18, 2018

*4525 Yellowstone Dr., Redding CA 96002
jim@jimwiegand.com
(530) 222-5338

Re: Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility for Construction of the North Ridge Wind Energy Project in the Towns of Parishville and Hopkinton, St. Lawrence Co. NY.

To whom this may concern:

I have looked over the bat and avian surveys planned for the DRAFT NORTH RIDGE WIND PROJECT. From my expert viewpoint, these planned surveys are severely flawed and for many reasons and could never produce a truthful or conclusive assessment for the species that will be impacted by these turbines.

I have been an independent wildlife researcher for nearly 50 years with field experience that few can match. I am an expert on raptors and have extensively analyzed wind industry related research from as far back as the mid 1980's. I also have a BS degree in Wildlife Biology from UC Berkeley.

Below I will comment on the Stantec submission (quoted in dark blue) that illustrate this poorly planned research:

1.0 Introduction

*"This work plan outlines the scope of work for 2016 spring raptor migration surveys and breeding bird surveys. The survey effort is based on the New York State Department of Environmental Conservation (DEC) *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* (DEC Guidelines), dated April 2016, and a teleconference held on May 9, 2016, with DEC."*

In my expert opinion, these guidelines may be based upon New York State Department of Environmental Conservation (DEC) Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects, but they deify logic and are not based upon sound scientific research. These Stantec surveys are supposed to identify bird, bat and raptor usage in and around the North Ridge Wind Energy project, yet these surveys are designed to miss much of this species usage by breeding and migratory species. Stantec gives no reasoning for choosing the flawed and inadequate methodology planned for these studies.

2.0 Spring Raptor Migration Surveys

"Spring raptor migration surveys will be conducted during the months of March, April, and May 2016. Surveys will generally be conducted weekly for a total of 11 survey days over the spring migration period. As per DEC Guidelines, surveys will be conducted from 1 prominent location with a good view of the Project area throughout the survey period (Figure 1). Surveys will take

place from 8:00 am to approximately 2 hours before sunset. Surveys will target days with optimal migration weather (southerly, moderate winds) and days with good visibility. Data will be collected on standard raptor datasheets and flight paths will be drawn on Project area maps. Data collected will include species identification, number of individuals, sex and age class (if possible), flight pattern and location, flight behavior, flight height, flight time inside the Project area, time of observation, and weather conditions. Other birds, including flocks of birds, will be recorded as incidental observations to the raptor survey.”

No observations from the field pertaining bat or avian species should be considered incidental or considered insignificant. After all turbines are known to kill virtually every bird or bat species that must share habitat and air space with wind turbines.

West of this planned project at the Derby Hill Bird Observatory in Oswego County, NY, on average 40,000 raptors are counted each spring as they migrate northwards, making this site one of the best spring sites in the country. Non-raptor observations are far greater and these can number 40,000-50,000 in a single day.

These non-raptor numbers are very significant and complete bird and raptor counts during seasons of highest usage should be reported from this site.

It is very important to note that even though Derby Hill has thousands of birds and raptors migrating through daily in the spring, it is a completely different story in the fall. At this time of year most of these birds and raptors have chosen other migration routes as they head south.

Some of these primary fall migration routes are inland. One of these New York fall migration routes passes through the well-known Franklin Mt. Hawkwatch location. It is located in Oneonta, NY. This popular fall migration lookout for raptors, sits directly south of Parishville, New York. Many of the raptors traveling through this site have very likely migrated through the Parishville region catching updrafts off the mountains as they make their way south.

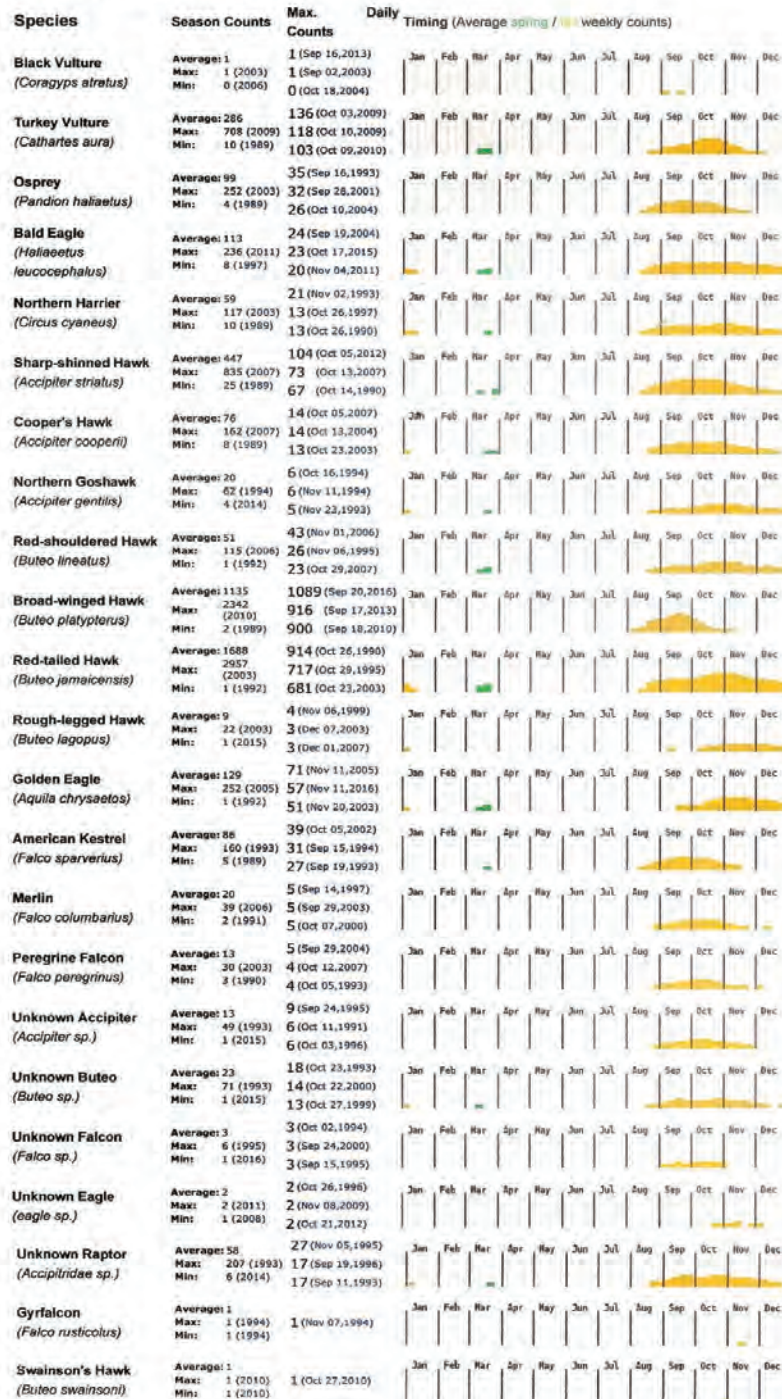
Favorable winds for turbines are often favorable winds for all avian migrations. Mountains create obstacles for migrants, and good winds concentrate birds along these pathways. Lower elevations also hold more food sources for migrants in the fall. In looking over the maps below it is very likely that the site chosen for the North Ridge Wind Energy Project, sits in or very close to a major fall stopover and migration corridor for raptors.

This migration corridor in and around the proposed North Ridge wind farm, likely applies to many bird species including nighttime migrants. This should be carefully analyzed with scientific research.





Migratory Raptors Observed at Franklin Mt.



In the above image are fall raptor migration notes from Franklin Mt. in Oneonta, NY. These numbers not

only show high fall passage rates, but that there are also far fewer raptor observations during the spring raptor migration. The opposite migration pattern of what occurs at Derby Hill in the spring. It is also very likely that far fewer raptors move north through the Parishville region each spring.

It defies all logic that Stantec would conduct raptor surveys in the spring while completely avoiding a fall raptor migration that occurs in this region. The fall surveys become even more important because the spring migration is a shorter event. The fall migrations occur for several months beginning in mid-September. The slower moving fall migration will put all raptors and birds at greater risk because migrating raptors will spend more time around these wind turbines in the fall.

According to Stantec, the planned raptor migration survey will be conducted from just 1 prominent location. What is the visibility in all directions from this location? Stantec does not say. With one location, it will not be possible to accurately assess the raptor usage and raptor flights over a 24 square mile region. It will also not be possible to accurately assess the raptor usage and raptor flights over a 24 square mile region in just 11 days of Stantec's choosing. Observations should be daily especially when there are favorable migration winds coming from the southerly direction in the spring and from the north in the fall.

Stantec states "As per DEC Guidelines, surveys will be conducted from 1 prominent location with a good view of the Project area throughout the survey period", but if visibility is limited, one location is not adequate. It may take 10 or more locations to view migration usage for the entire site.

As shown with the information provided, birds and raptors will use different migration routes in the fall and spring. Migration routes can also change from year to year depending on weather conditions. For these reasons, both fall and spring migration surveys are critical.

This statement from [Smithsonian](#) sums up some of the differences in fall and spring migrations very well.

"As summer turns to fall and leaves begin to turn, birds of all kinds begin to make their trek from cooler, northern breeding grounds to the warmer, southern areas where they'll spend the winter. With some of the flocks moving by the tens of thousands, the fall migration offers novice and expert bird watchers alike a chance to observe one of nature's great journeys. Fall is a particularly great time to catch birds on their southward migration, explains Scott Sillett, research scientist at the [Smithsonian Migratory Bird Center](#), because the fall migration lasts longer than the spring version, affording birders a better chance at seeing the birds in action. "They're trying to get to where they winter, but they don't have to immediately get there and set up shop and reproduce. It's a different pace of life in the fall," Sillett says. "And in the fall, you have more young birds on their first southern migration. There are more birds moving over a longer period of time."

The migrations of some birds, such as hawks, will be reaching their peak in the coming weeks, while other migrations, like waterfowl, will continue on through November. "

Here is more information showing the different routes taken by birds during fall and spring migrations.

"For the first time, scientists at the Cornell Lab of Ornithology have documented [migratory](#) movements of bird populations spanning the entire year for 118 species throughout the Western Hemisphere..

"After tracing the migration routes of all these species, we concluded that a combination of geographic

features and atmospheric conditions influence the choice of routes used during spring and fall migration,” says lead author Frank La Sorte, a research associate at the [Cornell Lab](#).”

I have known for years that bird species use different migration routes for fall and spring by watching my bird feeders. For example, during the spring migration I see Evening Grosbeaks and Western Grosbeaks, during the fall migration I do not.

3.0 Breeding Bird Surveys

Breeding bird surveys will be conducted once each week from May 23 to July 1 (6 weeks).

Surveys will be conducted from sunrise until no later than approximately 10:00 am, in weather conditions conducive to hearing and seeing birds. All birds identified by sight or sound within a 10-minute sampling period, including soaring raptors, waterfowl, and other fly-overs, will be recorded at each survey point. Habitat and weather information will be recorded at each survey point. Any distractions or noises affecting bird detection will be noted and the 10-minute point counts themselves will be initiated after a 2-minute quiet period to allow bird activity to return to normal, should it be affected by the observer walking between points.

Surveys will be conducted at 90 points along 15 transects, each between 300 to 400 meters long. Ten transects (with 60 points) will begin at proposed turbine locations (treatment) and 5 transects (with 30 points) will be located greater than 800 meters from proposed turbine locations (control). Transects will be distributed, to the extent possible, on available habitat (forest vs. field). Based on the availability of habitat within the Project area and existing land control, 8 transects will be located in forested habitat (5 treatment and 3 control), and 7 transects will be located in open field or agricultural habitat (5 treatment and 2 control).

Survey points along the forested habitat transects will be spaced 50 meters apart. Seven points will be placed on these transects, resulting in transects 300 meters long. The 8 transects in forested habitat will therefore contain a total of 56 survey points (7 points X 8 transects).

Survey points along the field habitat transects will be spaced 100 meters apart due to the increased detection distances in these open habitats. Field transects will contain either 4 or 5 survey points and will therefore be 300 or 400 meters long and will contain a cumulative total of 34 points. Data analysis will account for the difference in spacing between points along forest and field transects.

On average, 5 to 7 transects will be surveyed during each week within the survey period, and each point will be visited at least twice within the survey window. The final location of each survey point will be recorded with a Global Positioning System (GPS)."

The Stantec breeding bird surveys will start several months too late and the 90 point survey sites should only be a beginning in the analysis of the species using this site. This keyhole approach will miss most of the opportunities to observe nesting activities because nesting activities for some species start in January. For adult geese, this activity begins in late winter as soon as waters open up.

This keyhole approach will also miss or eliminate all the vital migratory bird species data and site usage in the fall.

The Stantec plans says nothing about conducting raptor breeding or raptor usage surveys. These should be conducted, but not when Stantec claims they should be done. The breeding surveys should start in January because raptors like bald eagles and horned owls start their nesting cycles at this time and are easy to notice in their home territories.

I can tell from looking at google earth imagery, that this location has many different raptors nesting in and around the vicinity of the planned project. An accurate survey and not a point survey, would find a multitude of raptor nests. Once again, the Stantec plans have avoided these surveys. They are very important because turbine mortality will cause territory abandonment. At one time, golden eagles nested annually in the 86 square mile footprint of Altamont Pass Wind resource Area (personal observations). There have been no recorded golden eagle nests within this location for over 25 years.

Accurate scientific surveys should include the entire region. Not only completely within the project site but they should extend out in all directions from project site with distances determined by the territory requirements of the species known to be living in the region. Some bird and bat species have very large territories and some nesting species will be impacted because of foraging territories that extend into the project area. For example, eagles and falcons have home territory sizes that can extend more than 100 Sq. Kilometers, a frigate bird's foraging territory can be many thousands.

If there are any Peregrine falcon nests within 10 miles, it is very likely they will spend time hunting over this project site. Nesting bald eagles will also travel several miles to hunt smaller bodies of water that hold fish. Regional sub-adult eagles are also likely to visit ponds with fish. If there are any nesting eagles or sub-adult eagles in the region they will also visit wind turbine locations looking for an easy blade strike meal.

Regional breeding bird and raptor surveys should start as early as January. In New York [bald eagles](#) are nest building in January and incubating eggs in February. When conducting these important surveys, a real expert would never limit observations to just a point survey methodology.

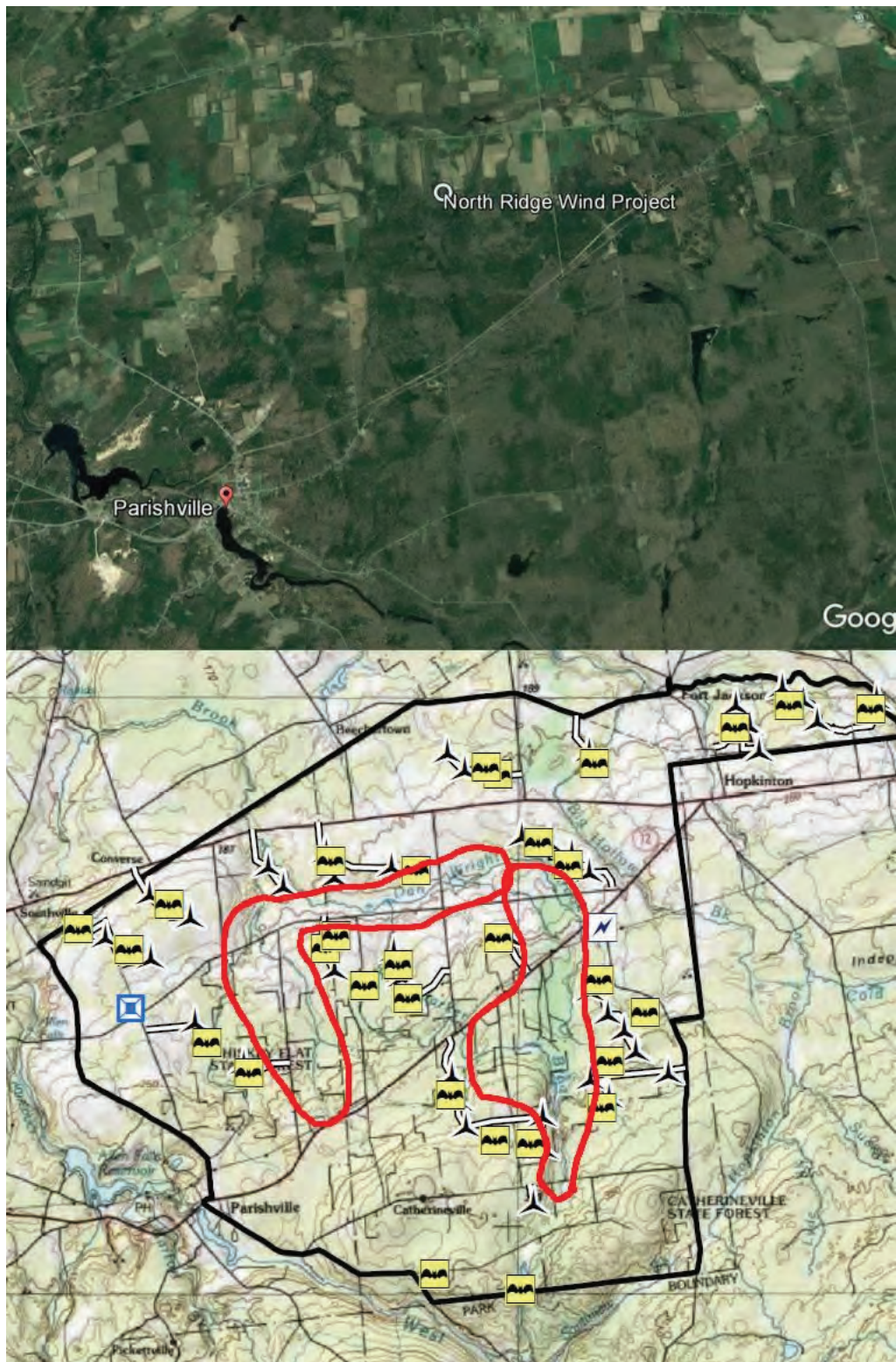
2.0 Bat Presence-Absence Survey

2.1 STUDY DESIGN

The NYSDEC Guidelines recommend use of the USFWS Guidelines for documenting the presence or probable absence of the federally and state-listed threatened northern long-eared bat (*Myotis septentrionalis*; NLEB) as part of the standard bat surveys at wind projects. During conversations with the USFWS it was noted that records of the Indiana bat would be associated with bats from the Fort Drum area, which are known to use the Glen Falls Park hibernaculum, located near Watertown, New York. Since Fort Drum and the Glen Falls Park hibernaculum are located more than 60 miles southwest of the Project area, Indiana bats are highly unlikely to occur. Despite this, data analysis for this survey will include both bat species.

The USFWS Guidelines prescribe the allocation of summer bat acoustic monitoring based on acreage of potential habitat for projects that cover localized areas or based on the linear (number of km) extent of potential habitat for projects that are more linear in design. Both methods provide challenges when applied to wind projects. Use of the area-based method typically results in excessively and unattainably large sampling requirements if it is applied to the total acreage of leased land, the outer boundary of all project features, or a bat home range buffer around the proposed project infrastructure. Additionally, the term “project area” is ambiguous and is often defined differently from site to site, resulting in inconsistent levels of effort to evaluate bat presence or absence.”

After all this lengthy Stantec discussion and distorted reasoning, this planned bat survey was designed to miss what is probably the most utilized and most important bat habitat located in the project site. Bats are attracted to wetlands and bodies of water because of the abundance of insects. Look at the image below and note the two reds circles. These are two areas that should be a top priority for an accurate bat survey.



It is also known that bats in the [New York](#) region migrate hundreds of miles. This was not brought up.

2.2 FIELD METHODS

“Full-spectrum (e.g., Wildlife Acoustics© SM3 or SM4) acoustic bat detectors will be deployed for this survey. Each detector will be fitted with a SMM-U1 ultrasonic omnidirectional microphone and the audio and data storage settings will be adjusted according to manufacturer recommendations (i.e., detectors will operate in “triggered .wav” mode using default trigger threshold settings recommended by the manufacturer).

Each detector will be deployed at a sampling site for 2 nights and will be programmed to record for the period between 30 minutes before sunset until 30 minutes after sunrise for each night of survey. In compliance with the USFWS Guidelines, weather conditions at the nearest weather station (KNYPOTSD6 in Potsdam, New York) will be reviewed to confirm that during the first 5 hours of each night the temperature does not fall below 50°F (10°C), precipitation (including rain and/or fog) does not exceed 30 minutes or continue intermittently, and sustained wind speeds are not greater than 9 miles/hour for 30 minutes or more. Should these weather conditions not be met during this 2-night deployment, detectors will be left in place for additional night(s) until data have been collected on 2 survey nights with suitable weather conditions. Data analysis will only occur on the data from the first 2 nights with suitable weather.

The location of detectors will be based on the site selection process described above. However, final micro-siting of each detector will be based on site conditions observed in the field and detector deployment criteria (e.g., distance from vegetation, microphone height above ground) described in Appendix C of the USFWS Guidelines. Final detector locations will be located by GPS and documented on datasheets. “

Once again, none of this plan is scientific or accurate if bat detectors do not cover the wetland areas within and around the project site. The majority of data in any scientific survey should be collected from these feeding locations and not collected from areas where they are less likely to be found. This is especially true when checking for the presence of the federally and state-listed threatened northern long-eared bat.

Equipment should also be set up with no obstacles that will limit the coverage. If coverage is limited by obstacles or range limitations it should be noted

It is also important to note that planned bat data collected from around proposed turbine sites today will change dramatically. With these turbines, new wide-open areas will be created across the project site. Since bats are attracted to open areas, they will be attracted to these new open areas while foraging for insects.

3.2 FIELD METHODS

“A bat detector will be placed on the on-site meteorological (met) tower in late July and will be programmed to record daily from 30 minutes before sunset until 30 minutes after sunrise during the survey period until mid-October (Figure 1). The detector will be hung on the tower at a height of approximately 45 m. Bi-weekly visits will be conducted to download data, verify proper operation of the detector and maintain the detector’s power system. “

The planned bat surveys by Stantec do not discuss the total coverage or the effective range for any of the bat detector equipment they plan on using. If Stantec is really looking for Northern Long-eared Bats at this site they, will get the best detector coverage possible from the best locations.

Article 10, The National Environment and Planning Agency (NEPA) and EPA Law

As I have shown here in my discussion, the proposed Stantec studies are riddled with major problems. As a result, these studies cannot possibly satisfy Federal EIS or Article 10 requirements.

Article 10 states, “1. Any person proposing to submit an application for a certificate shall file with the board a preliminary scoping statement containing a brief discussion, on the basis of available information, of the following items:

- (a) description of the proposed facility and its environmental setting;
- (b) **potential environmental and health impacts resulting from the construction and operation of the proposed facility;**
- (c) **proposed studies or program of studies designed to evaluate potential environmental and health impacts,** including, for proposed wind-powered facilities, **proposed studies** during pre-construction activities and a **proposed period of post-construction operations** monitoring for potential impacts to avian and bat species;
- (d) measures proposed to minimize environmental impacts; ”

The studies proposed by Stantec are flawed and will never be able to fairly evaluate or analyze the potential environmental impacts from this project. Under these Article 10 guidelines, impacts can never be evaluated nonscientific studies designed to conceal facts. Using the results from these proposed Stantec studies will hide impacts and they will hide many of species being impacted. Every discussion or proposal that relies upon these studies to “measure” and “minimize” impacts will be seriously tainted. Creating and conducting flawed studies like those proposed by Stantec may satisfy some of the basic Article 10 requirements, but these studies can never satisfy Article 10 sections (a), (b), (c) and (d) because these studies do not adhere to “scientific” standards.

Stantec’s proposed studies also will not come close to meeting NEPA or EPA EIS requirements. Once again because these studies are not scientific the impacts from the project will not be fairly evaluated. Their proposed nonscientific studies will conceal obvious facts.

40 CFR 1502.1

§1502.1 Purpose.

The primary purpose of an **environmental impact statement** is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. **It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.** Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

§1502.2 Implementation.

To achieve the purposes set forth in §1502.1 agencies shall prepare environmental impact statements in the following manner:

- (a) Environmental impact statements shall be analytic rather than encyclopedic.
- (b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.
- (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations. Length should vary first with potential environmental problems and then with project size.
- (d) Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.

(e) The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.

(f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (§1506.1).

(g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

§1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

Stantec has a history of conducting nonscientific research

It is important to bring this up because I have seen a very consistent pattern with Stantec's research. They consistently choose research methodologies that exclude important data.

I first became acquainted with Stantec research after I read over a 2009 survey conducted on behalf of Iberdrola concerning peregrine falcon use in the region of the proposed Groton New Hampshire Wind project. The [peregrine falcon survey](#) for the project was severely flawed because researchers did not even try to observe the falcons when they would be the most active. Peregrine falcons are very active during their daily dawn and dusk hunting activity. They are also very active during courtship rituals in the Spring.

Yet the stated objective of the survey was to investigate whether peregrine falcons use the Project area. These observations were critical because it is during these behaviors the falcons are the most likely to be using the project site. It is also during these distractive behaviors that a collision with a turbine is the most likely.

Even the observers themselves noted this flaw in the survey methodology with the following statement; "Therefore, the results of the 2009 surveys cannot describe peregrine activity during all daylight hours during the period of interest, or describe activity across the entire Project area."

Yet Iberdrola, in their Executive Summary for the project, boldly makes the following statement based upon this survey; " Rare, threatened, or endangered bird species that were documented in the Project area during these surveys include peregrine falcon (state- listed threatened), bald eagle (state-listed threatened), and common loon (state- listed threatened). **None of these species** reside within the project area.

No federally-listed threatened or endangered birds were observed during any of the field surveys."

This statement is false. I am an expert on Peregrine Falcon behavior and know with complete certainty, these falcons did utilize the air space located in their hunting territories above the proposed Groton Wind Project site.

Impossible post operational wind turbine research

What I am presenting next is about the easiest to understand and crystal-clear proof pertaining to Stantec's nonscientific research. As I will show, using the data from past wind turbine mortality studies, the results from Stantec's wind turbine mortality studies are not even remotely possible with operating wind turbines spinning with tip speeds of 175-200 mph. Stantec's reported carcass distances around turbines defies all logic including Newton's laws of motion, inertia and gravity. Stantec may be following Canadian Ministry or USFWS wind turbine research guidelines with their studies, but this research isn't scientific and their results have been consistently impossible.

Below are a few of published distance locations for thousands wind turbine carcasses collected over a several decades period. There are many studies with similar carcass distance data. When looking over this wind industry mortality data, notice the recorded carcass distance locations. With this data, about 50-80% of all carcasses were reported at distances beyond the turbine rotor sweep or the turbine blade length out from turbine towers. This data represents what a turbine blade does to birds and bats upon impact. Carcasses are launched with great force into wind currents.

Wind turbine carcasses distribution from Altamont pass around small turbines. Most of the carcasses found were reported far beyond turbine blade lengths.

Prepared for the:

Planning Departments of
ALAMEDA, CONTRA COSTA and SOLANO Counties
and the CALIFORNIA ENERGY COMMISSION
Grant #990-89-003

Prepared by:

BoiSystems Analysis, Inc.
Tiburon, CA

Principal Authors:

Susan Orloff
Anne Flannery

**Wind Turbine Effects on Avian Activity,
Habitat Use, and Mortality
in Altamont Pass and Solano County
Wind Resource Areas**

1989-1991

**Final Report
March 1992**

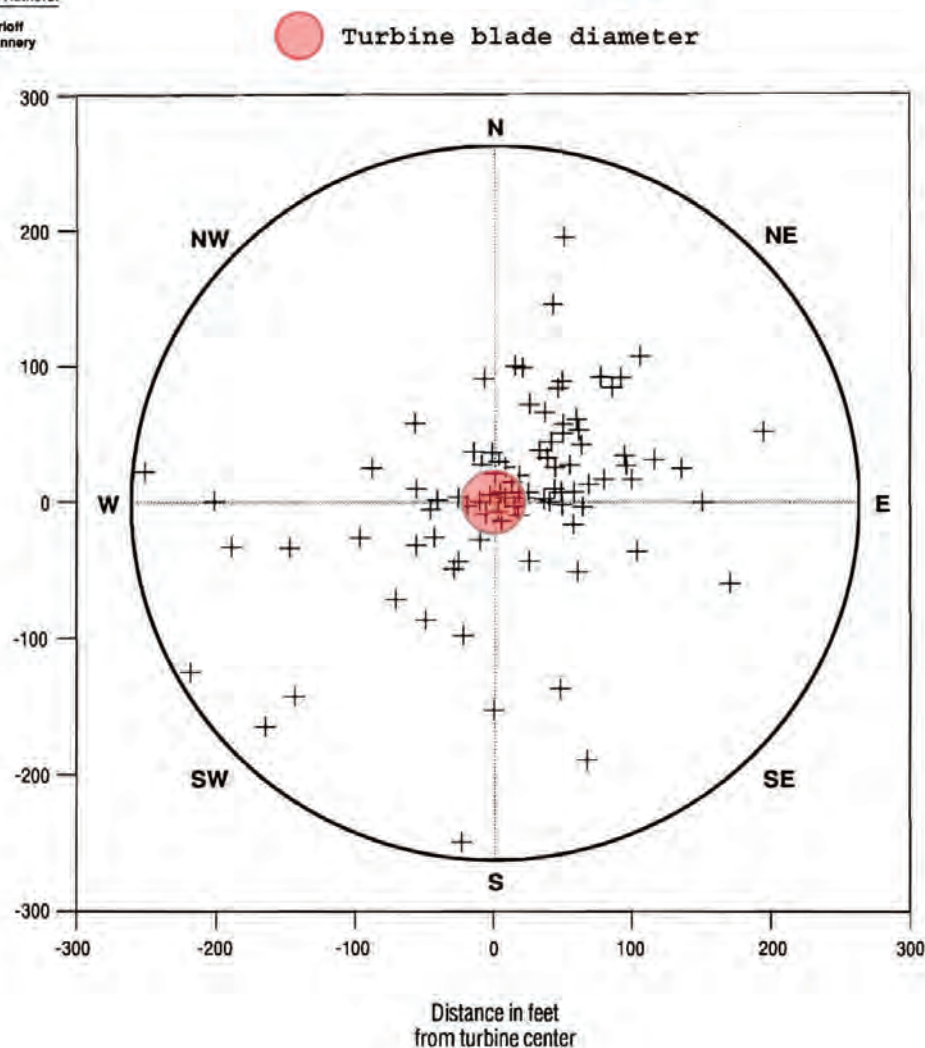


Figure 3-22. Locations of mortalities in relation to turbine centers.

Carcass distribution for 631 small-bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

Small-bodied Birds

Our search radius included 90.5% of the carcasses of small-bodied bird species (Figure 2-9B), of which 75% were located within 34 m of the tower. The mean and standard deviation of these 631 distances was 23.8 ± 19.4 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest (Figure 2-10B), just as the large-bodied bird carcasses had been distributed.

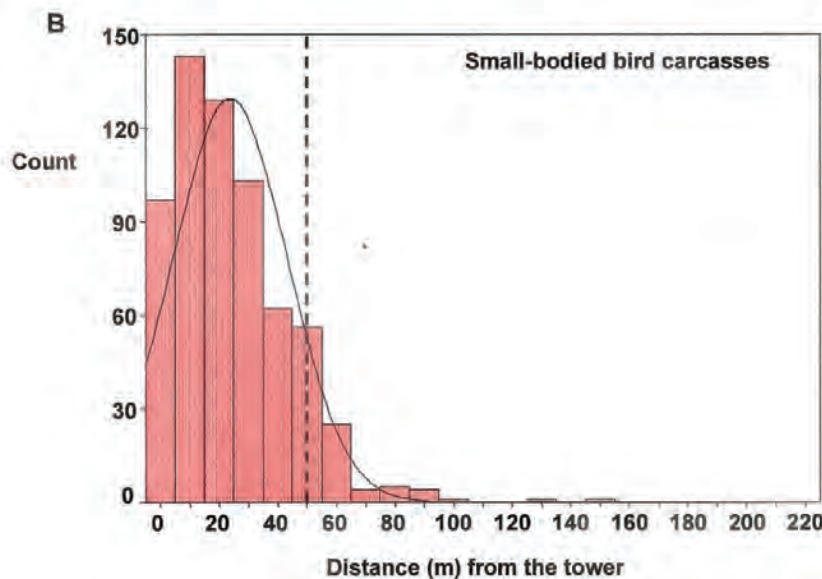


Figure 2-9. Frequency distributions of distance from the wind tower among carcasses of large-bodied (A) and small-bodied (B) bird species

^a Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.

^b Set 2 includes 2,548 wind turbines (267.090 MW) in the November 2002–May 2003 rotation.

^c Set 3 includes the 1,326 wind turbines (161.750 MW) not included in any search rotation. Mortality for Set 3 was estimated by taking the weighted average from the two sampled sets of wind turbines ((mortality of Set 1 \times 151.165 MW) + (mortality of Set 2 \times 267.09 MW)) \div 418.255 MW.

Smallwood, K. S., and C. G. Thelander, Developing Methods to Reduce Bird Fatalities in the Altamont Wind Resource Area, Final Report by BioResource Consultants to the California Energy Commission, Public Interest Energy Research – Environmental Contract No. 500-01-019 (L. Spiegel, Project Manager), 2004.
http://altamontsrc.org/alt_doc/cec_final_report_08_11_04.pdf

Carcass distribution for 468 large bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

2.3.2 Distances of Bird Carcasses from Wind Turbines

Large-bodied Birds

Our search radius included 84.7% of the carcasses of large-bodied bird species determined to be killed by wind turbines or unknown causes (Figure 2-9A). Of these, 75% were located within 42 m of the tower. The mean and standard deviation of these 468 distances was 31.1 ± 30.0 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest of the tower (Figure 2-10A).

Carcass locations of large-bodied bird species differed significantly by distance from wind turbines according to five ranges of tower heights (ANOVA $F = 3.66$; $df = 4, 456$; $P = 0.006$), and post-hoc LSD tests revealed that fatalities were located farther from 25-m and 32-m towers (means = 33 m and 57 m) than shorter towers (mean = 28 m for 14-m towers, and 26 m for 18.5-m towers) or 43-m towers (mean = 28 m). Distance from tower increased with tower height, according to linear regression analysis, although the precision of the model was poor (Figure 2-11A).

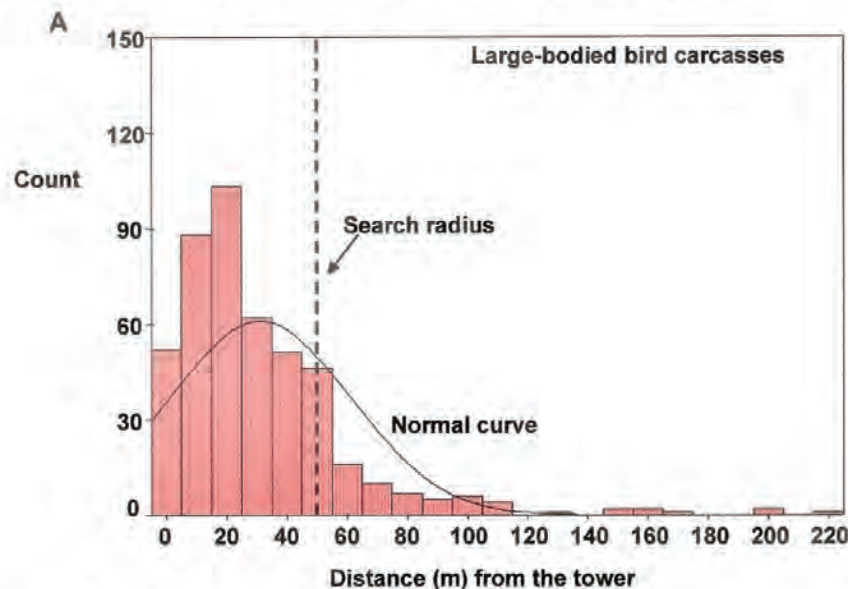


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http://altamontsrc.org/alt_doc/cec_final_report_08_11_04.pdf

November 1998 - June 2002

This initial construction phase of the Foote Creek

Rim wind plant (hereafter referred to as FCR I) is comprised of 69 600-kilowatt Mitsubishi turbines (41.4 MW capacity)

During this study 43 of 79 bats were found at or beyond the 21 meter turbine blade length.

Appendix B. Bat mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
232	Hoary Bat	8/29/01	Yes	T 50	10	Intact carcass
233	Silver-haired Bat	9/3/01	No	T 58	15	Intact carcass, found by Jeff Gruber (UW) during bat studies on FCR
234	Hoary Bat	9/13/01	Yes	T 22	57	Intact carcass but decomposed
253	Little Brown Bat	6/3/02	Yes	T14	-40	Intact carcass

^a matches log no. on Figure 1

^b T = turbine; M = meteorological tower (met tower)

At turbine plots, avian casualties were located between 4 and 77 m from the turbines with an average distance of 37.7 m.

¹ The carcasses found at distances too great to determine if they were associated with a wind plant turbine or met tower were all found incidentally during other wildlife studies (e.g., raptor point counts).

Appendix A. Avian mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
158	Common Nighthawk	7/27/00	No	unk	-	Intact carcass; 1m south of road, compressed by truck tire, 140m from T 40
175	Rock Wren	8/29/00	Yes	T 23	47	Intact carcass; left eye scavenged; broken left wing, broken ribs
179	Horned Lark	9/5/00	No	unk	-	Feather spot; possible mammal scavenging; 168 m from T 68
182	Townsend's Warbler	9/11/00	Yes	T 11	28	Dismembered carcass; torso, head, wings missing
183	Wilson's Warbler	9/12/00	Yes	T 31	30	Dismembered carcass; part of head, most of tail, 1 wing and body feathers
185	Townsend's Warbler	9/12/00	Yes	T 40	61	Dismembered carcass; head and torso missing
188	White-crowned Sparrow	9/26/00	No	unk	-	Intact carcass; fresh carcass, no visible injuries; 184 m from T 36

FCR I. The Mitsubishi turbines in FCR I are approximately 131 ft (40 m) tall at the nacelle with a rotor diameter of 138 ft (42 m). Tower (turbine) spacing in FCR I is approximately 276 ft (84 m).

**Post-Construction Avian Monitoring Study for the Shiloh I Wind Power Project
Solano County, California
Year One Final Report September 2007**

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

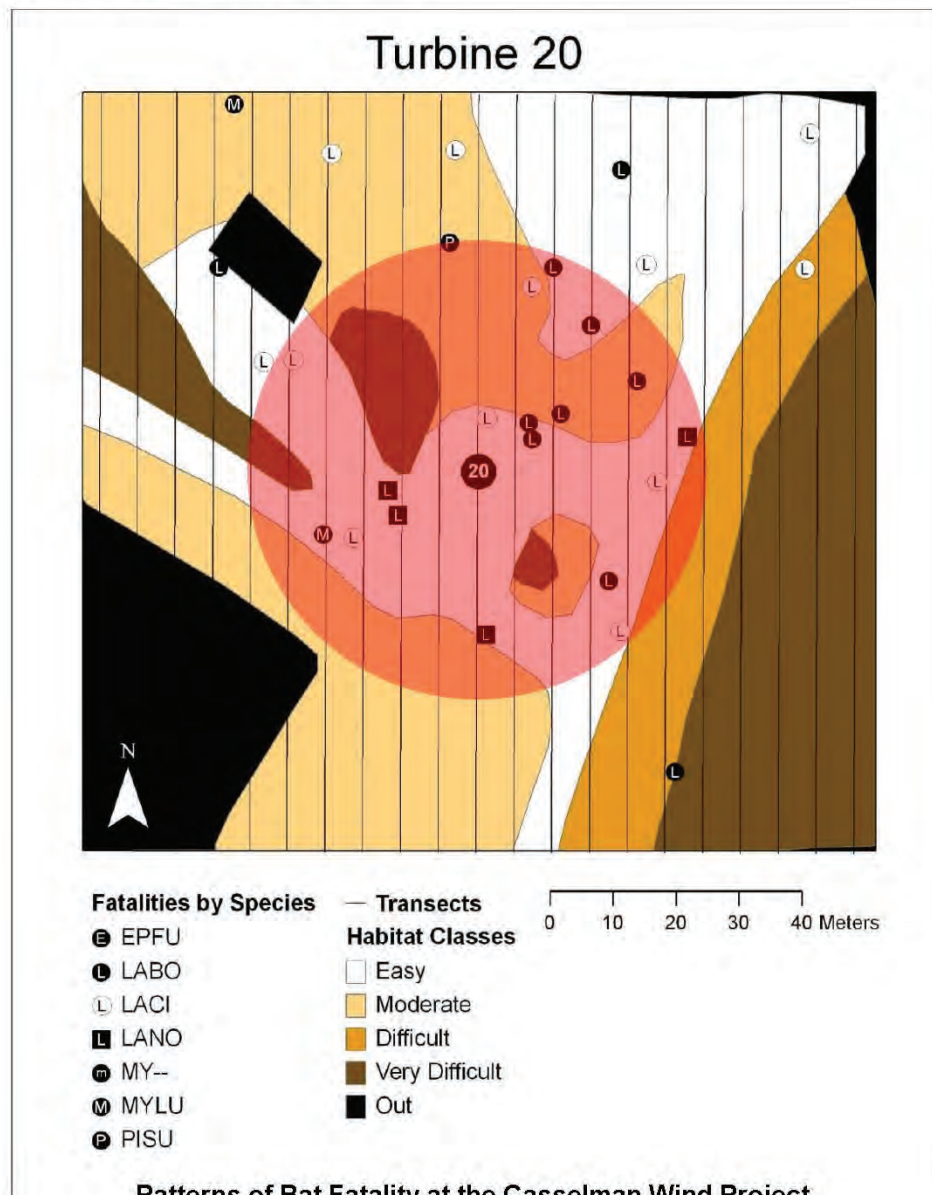
Species Size Group	Distance Range (meters)														Total
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200	
Small Bird	5	1		1	2		1	6	3	8	3				30
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109
Large Bird	3	1	2	1	1	1	1	2	3	1	1	2	1		21
Unknown Bird Species*						1	1	2	1	4					9
Bat	3		4	7	15	9	3	6	4	1					52
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221

* All unknown bird species were small or medium sized passerines

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen because of temporary high visibility conditions periods during crop rotations. Search intervals were approximately once a week and as a result many of the fatalities were missed.

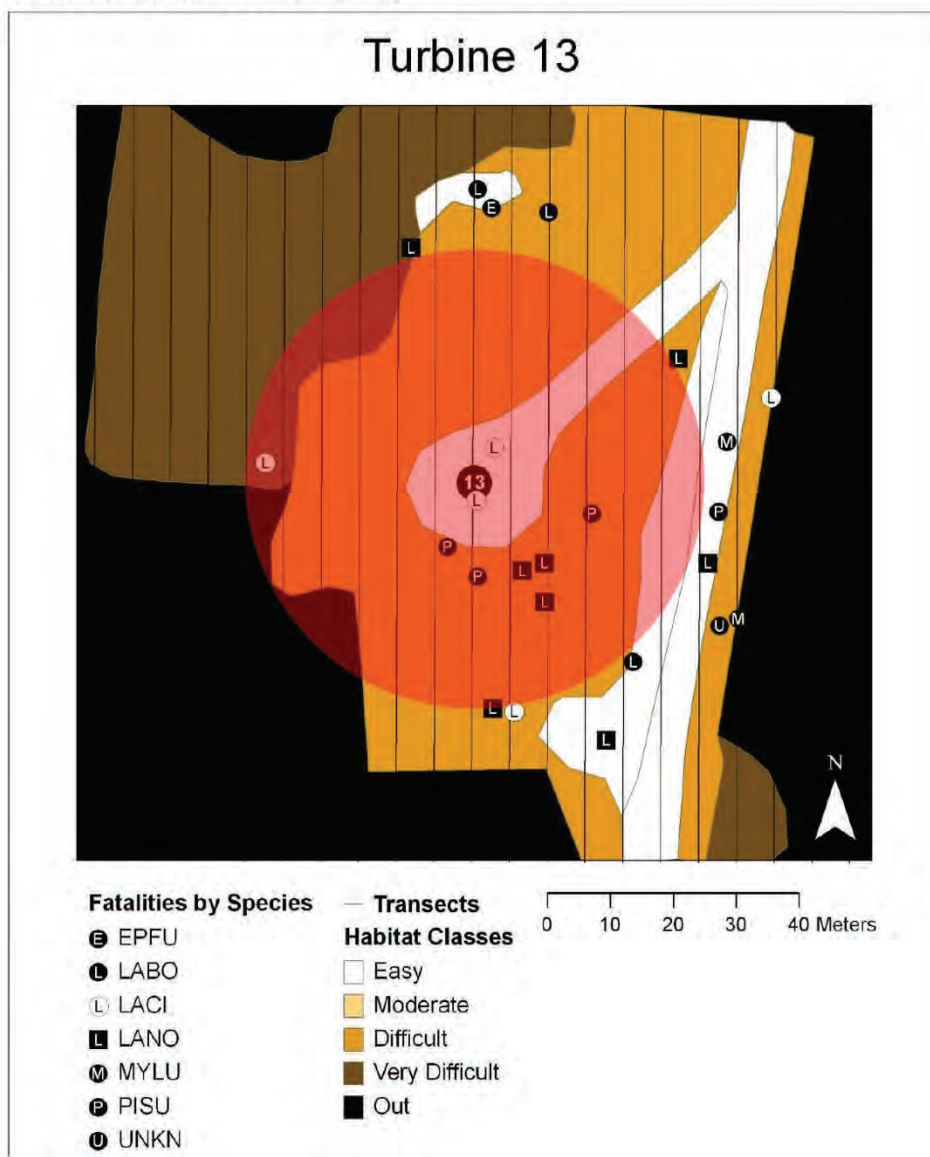
Of these reported carcasses 163 or 76% were found beyond the 38 meter blade lengths.

Here is more proof showing wind turbines of just 1.5 MW launching tiny bat carcasses far beyond turbine blade length. The red circle represents rotor sweep. As seen here, when searching in easy terrain many more bats were found far beyond the turbines rotor sweep.



Arnett, E. B., M. R. Schirmacher, M. M. P. Huso, and J. P. Hayes. 2009. Patterns of bat fatality at the Casselman Wind Project in south-central Pennsylvania.

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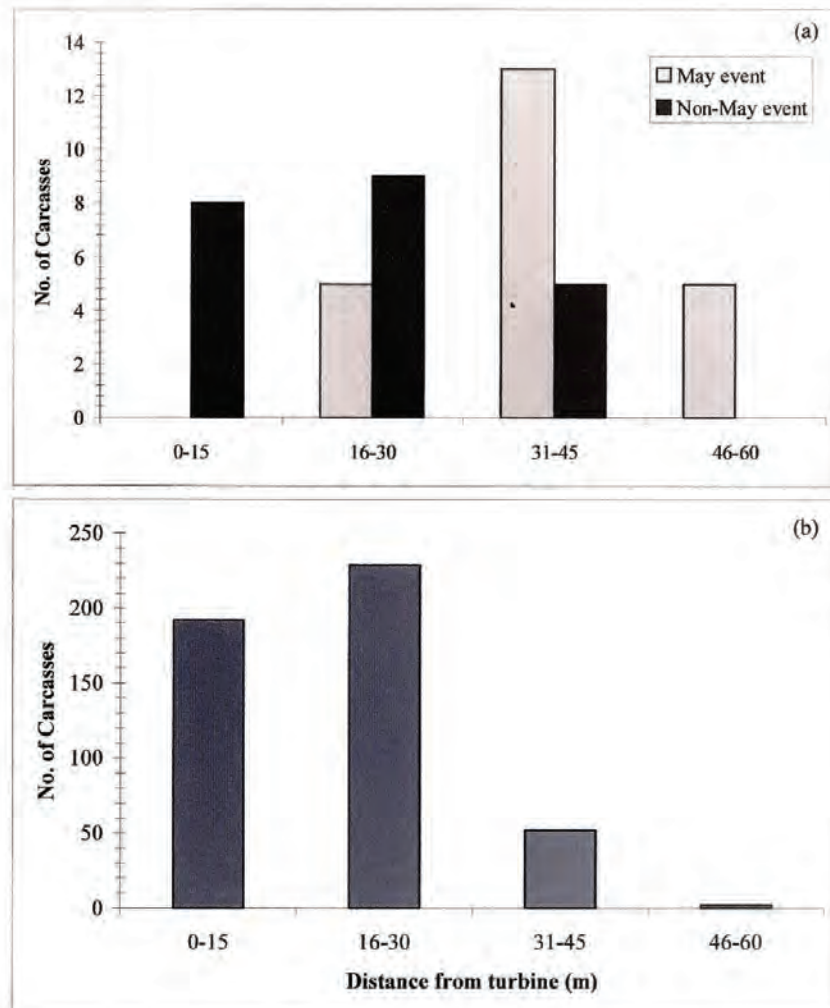
**Patterns of Bat Fatality at the Casselman Wind Project
in south-central Pennsylvania
2008 Annual Report**

Arnett, E. B., M. R. Schirmacher, M. M. P. Huso, and J. P. Hayes. 2009. Patterns of bat fatality at the Casselman Wind Project in south-central Pennsylvania.

2003 Mountaineer WEC Annual Rpt. – Avian and Bat Fatalities

37

Figure 7. Distances of (a) nocturnal migrant songbirds and (b) bat carcasses from the turbine base (in meters).



Bat Fatalities.

Summary of Fatalities of Bats. A total 475 bat carcasses of 7 species were found during the 23 rounds of searches at the MWECC (Table 5). Red bats were most numerous, accounting for 42.1% of all carcasses found, with hoary (18.5%), eastern pipistrelle (18.3%), little brown (12.6%), silver-haired (5.9%), northern long-eared (1.3%), big brown (0.4%), and unidentified (0.8%) bats accounting for the remainder.

Curry & Kerlinger, LLC –2-14-04

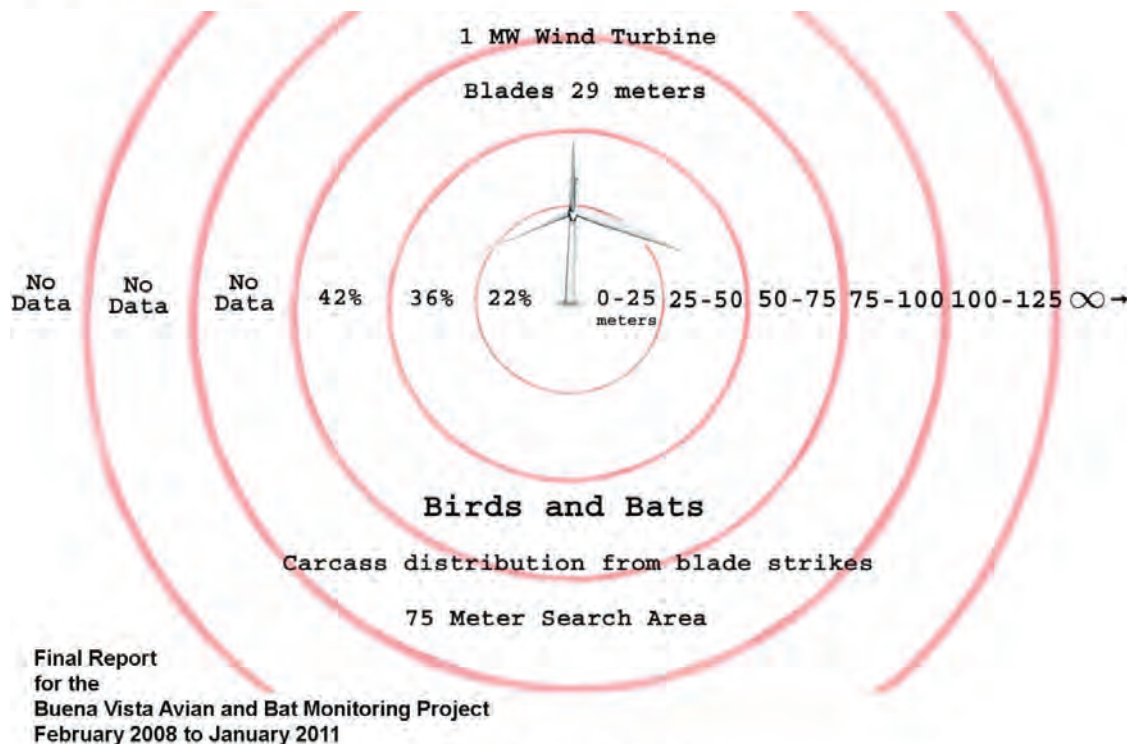
NEG Micon 1.5 MW wind turbine, 34 m rotor blades
Using undersized search areas in difficult search terrain

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	4,807 (99.3%)	38 (<1%)	4,845

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.



Insignia Environmental (Insignia) on behalf of the Contra Costa County
Department of Conservation and Development

"Turbine and tower characteristics are as follows: 80-meter (m; 262.5 feet [ft]) hub height, 41-m (134.6 ft) blade length, 5,281-square meter (m²; 56,844 square feet [ft²]) rotor swept area, and 14.4-rotations per minute (rpm) rotor speed. The rotor swept area extends from 39 m (127.1 ft) above ground level (agl) to 121 m (396.1 ft) agl."

Table 9. Number of bird carcasses found at each range of distances from the turbine during the 2010 mortality surveys at the Cedar Ridge Wind Farm.

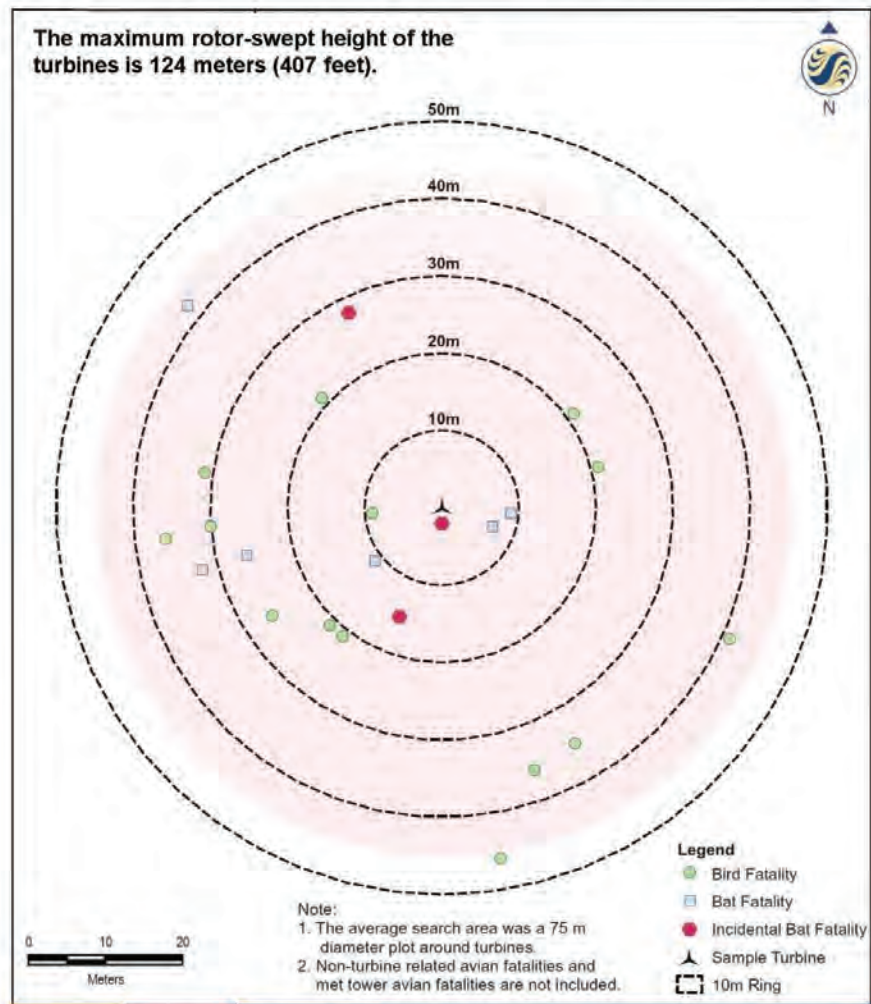
Distance to Turbine (m)	Number of Bird Carcasses	Proportion of Bird Carcasses (percent)
0 to 9	0	0.0
10 to 19	0	0.0
20 to 29	3	12.5
30 to 39	2	8.3
40 to 49	3	12.5
50 to 59	4	16.7
60 to 69	1	4.2
70 to 79	5	20.8
80 to 89	4	16.7
90 to 99	1	4.2
100 to 109	1	4.2

Estimated carcasses beyond 41 meter blade length 79%

Final Report
Prepared for:
Wisconsin Power and Light
4902 North Biltmore Lane
Madison, Wisconsin 53718-2148

Now look at a few results from Stantec research

One carcass was reported beyond 44 meter blades



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 Fax: (207) 729-2715
 www.stantec.com

Client/Project
 TransCanada Hydro Northeast, Inc.
 Kibby Wind Power Project
 Franklin County, Maine

Figure No.
 2-5

Title
**Summary of Carcass Distances
 and Directions from Study Turbines**
 11/202011

As the turbines have grown in size, the blade impact points are reach further out from turbine bases. Industry blades that were once 5-9 meters long are now 50-60 meters long. These new turbines are also 4-5 times taller. **Stantec's mortality research data does not account for bird or bat impact points that are now 50-60 meters out from turbine bases.** In fact, of the hundreds and hundreds of carcasses reported by Stantec, about 99% are reported at distance locations from towers less than the length of

the turbine blades. Instead of reporting 50-80% of carcasses being found at distances beyond the blade lengths, they report the opposite with an average distance of about 1/2 a turbine's blade length.

Mortality Data - Detailed Results Birds

GPS Location													
Date	# checks/ week	Turbine #	Zone Easting	Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
01-Feb-10	46	0389918	4890696	CF	Bird Sp.	bird	old - at least 3 days			13	82	E	Soil
08-Feb-10	81	0389704	4894002	WS	Red-tailed Hawk	bird	frozen - less than 5 days	bent wing		23	253	W	Soil
09-Feb-10	30	0384145	4890364	WS	Bird Sp.	bird	complete - >30 days			44	40	N	Soil
16-Feb-10	69	0384733	4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days			12	18	N	Soil
22-Feb-10	72	0385840	4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing		16	166	S	Gravel
04-Mar-10	55	0387550	4889924	JL	Bird Sp.	bird	Fresh, 1-2 days			40	270	W	Soil / Veg
10-Mar-10	65	0384733	4886852	WS	Bird Sp.	bird	days	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10	61	0390023	4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck		15	194	S	Soil
23-Mar-10	43	0390564	4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck		34	350	N	Gravel
29-Mar-10	1	0381112	4890726	CF	Starling	bird	Fresh, 1-3 days	Neck		12	270	W	Soil
31-Mar-10	29	0384748	4886878	JL	Blue Jay	bird	Old, 3-4 days			14	210	SW	Soil / Veg
31-Mar-10	41	0387552	4886856	CF	Starling	bird	Fresh, 1-2 days	Neck		44	44	NE	Soil / Soybean / veg
05-Apr-10	72	0387700	4892945	WS	Horned Lark	bird	Fresh, <3 days	Trauma, left side		31	215	S	Soil
06-Apr-10	30	0385830	4892985	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma		15	319	N	Grass
08-Apr-10	18	0381634	4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)		19	110	E	Mud/veg
09-Apr-10	61	0384123	4890372	JL	Red-tailed Hawk	bird	Fresh, <2 days	Neck / Leg		31	105	E	Veg / Soil
12-Apr-10	38	0387277	4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head		9	90	E	Gravel
13-Apr-10	9	0380923	4890046	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body		19	270	W	Gravel
14-Apr-10	29	0384729	4886854	WS	Red-tailed Hawk	bird	Fresh, <3 days	Decapitated		26	110	E	Soil
14-Apr-10	30	0384732	4886839	WS	Wilson's Snipe	bird	Old, >5 days			6	160	SE	Grass
15-Apr-10	27	0382244	4891308	JL	Red-tailed Hawk	bird	Fresh, <1 day	Neck (?)		8	330	N	Soil / Rock
16-Apr-10	64	0386550	4893697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck		40	330	N	Hay / Mud
21-Apr-10	49	0387565	4886888	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck		1	159	S	Gravel
22-Apr-10	9	0380804	4890065	WS	Wilson's Snipe	bird	Decaying, >3 days			28	260	W	Grass
23-Apr-10	56	0385846	4890236	JL	Mallard	bird	Fresh, <1 day	Neck / Head		10	235	SW	Soil
23-Apr-10	79	0384852	4888368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck		10	50	NE	Soil / Veg
26-Apr-10	2	0382125	4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless		31	320	N	Swamp
26-Apr-10	1	0380953	4891108	WS	Mallard	bird	Fresh, <3 days	Footless		35	320	N	Grass
26-Apr-10	65	0381077	4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only		31	80	N	Grass
26-Apr-10	26	0382110	4891660	WS	Wilson's Snipe	bird	Fresh, <3 days	Broken neck		0	40	N	Tower base
28-Apr-10	63	0386780	4893376	JL	Tree Swallow	bird	Old, 2-3 days			40	350	N	Soil / Veg
28-Apr-10	73	0387728	4892954	WS	Bird Sp.	bird	Fresh, <3 days	Broken neck		22	100	E	Soil
28-Apr-10	24	0382773	4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half		48	300	NW	Veg / Soil
03-May-10	2	43	0390538	4891543	JL	Osprey	bird	Really Fresh, < 12 hours	Head	15	135	SE	Soil
04-May-10	2	71	0384293	4893473	WS	Ring-billed Gull	bird	Unknown		40	110		Mud
05-May-10	1	31	0384987	4898113	CF	Mallard	bird	Fresh, 1-3 days	Neck	27	82	E	Soil
05-May-10	1	72	0385876	4892975	CF	Upland Sandpiper	bird	Fresh, 1-2 days	Wing	44	262	W	Vegetation
06-May-10	2	34	0384070	4887239	WS	Black & White Warbler	bird	Fresh, <3 days	Nothing visible	38	220		Rock
06-May-10	2	34	0384008	4893473	WS	Savannah Sparrow	bird	Fresh, 3-5 days		27	86		Soil
07-May-10	2	71	0386358	4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294	4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385888	4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933	4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381971	4892264	CF	Baltimore oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
17-May-10	2	33	0384514 4887219	JL	Magnolia warbler	bird	Fresh, 1-2 days	Wing/Neck	40	315	NW	Soil
17-May-10	2	78	0385183 4890985	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	31	78	E	Vegetation
18-May-10	2	25	0382723 4890484	CF	Philadelphia Vireo	bird	Fresh, 1-2 days	Abdomen	9	40	NE	Vegetation
20-May-10	2	23	0382112 4890306	JL	Horned Lark	bird	Old, > 7 days		41	160	S	Soil / Veg
21-May-10	2	64	0384399 4893759	JL	Red-winged Blackbird	bird	Fresh, 1-2 days	Neck?	29	130	SE	Gravel
24-May-10	2	65	0382179 4892621	WS	Upland Sandpiper	bird	Fresh, < 5 days	Entirely	39	180		Soil
27-May-10	2	46	0389906 4890719	WS	Mourning Dove	bird	3-5 days	Mangled	37	172		Weeds
31-May-10	2	35	0384235 4887843	JL	Ring-billed Gull	bird	Fresh, 2-3 days	Neck	20	95	E	Soil / Veg
31-May-10	2	24	0389903 4890711	WS	Ring-billed Gull	bird	Old, > 5 days	Entirely	34	220		Grass
08-Jun-10	2	68	0386462 4891880	WS	Bobolink	bird	Old, 2-5 days	Entirely	38	234		Cornfield
10-Jun-10	1	75	0384512 4892590	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	16	22	N	Soil / Veg
10-Jun-10	2	24	0382751 4890005	JL	Ring-billed Gull	bird	Fresh, 1-2 days	Wing / Neck	35	345	N	Soil / Veg
11-Jun-10	2	38	0387304 4887585	WS	Ring-billed Gull	bird	Unknown, feathers only, body has been scavenged		17	234		Soil
16-Jun-10	1	56	0385779 4890243	CF	Ring-necked Pheasant	bird	Fresh, 1-2 days	Neck?	1	194	S	Soil / Veg
18-Jun-10	2	20	0381632 4889279	WS	Killdeer	bird	Feathers only	? Scavenged	40	249		Grass
21-Jun-10	2	42	0386325 4889071	JL	Tree swallow	bird	Fresh, 1-2 days	Wing / Neck	23	320	NW	Veg / Soil
22-Jun-10	1	9	0380911 4890059	JL	Common Grackle	bird	Old, 3-4 days		16	255	W	Gravel
22-Jun-10	2	67	0386811 4891257	WS	Mourning Dove	bird	Fresh, < 3 days		1	200		Soil
23-Jun-10	1	31	0384874 4888158	WS	Wood Thrush	bird	Old, > 3 days	Entirely	29	165		Gravel
24-Jun-10	2	46	0389914 4890729	CF	Tree swallow	bird	Fresh, 1-2 days	Wing?	30	172	S	Gravel
25-Jun-10	2	42	0386302 4889048	CF	Wilson's Snipe	bird	Completely (maggots) 3-4 d	Neck	32	78	E	Gravel

Date	# checks/ week	Turbine #	GPS Location		Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
			Zone	Easting Northing									
01-Feb-10	46		0368918	4880696	CF	Bird Sp.	bird	old - at least 3 days		13		62 E	Soil
08-Feb-10	61		0368704	4880902	WS	Red-tailed Hawk	bird	frozen - less than 5 days	beut wing	23		253 W	Soil
09-Feb-10	30		0384145	4880304	WS	Bird Sp.	bird	complete - ~30 days		44		40 N	Soil
16-Feb-10	69		0364733	4886865	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12		18 N	Soil
22-Feb-10	72		0385840	4892986	CF	European Starling	bird	1-2 days		16		166 S	Gravel
04-Mar-10	55		0367550	4888924	JL	Bird Sp.	bird	Fresh, 1-2 days	Wing	40		270 W	Soil / Veg
10-Mar-10	65		0364733	4886862	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43		114 E	Swamp
11-Mar-10	61		0390023	4884173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15		194 S	Soil
23-Mar-10	43		0390564	4881053	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34		350 N	Gravel
29-Mar-10	1		0381112	4880726	CF	Starling	bird	Fresh, 1-3 days	Neck	12		270 W	Soil
31-Mar-10	29		0364748	4886878	JL	Blue Jay	bird	Old, 3-4 days		14		210 SW	Soil / Veg
31-Mar-10	41		0387552	4886656	CF	Starling	bird	Fresh, 1-2 days	Neck	44		44 NE	Soil / Soybean /veg
05-Apr-10	72		0387700	4892545	WS	Horned Lark	bird	Fresh, < 3 days	Trauma, left side	31		215 S	Soil
06-Apr-10	30		0388302	4892658	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma	31		360 N	Gravel
08-Apr-10	18		0381634	4889714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19		110 E	Mud/Hg
09-Apr-10	61		0384123	4880372	JL	Red-tailed Hawk	bird	Fresh, < 2 days	Neck / Leg	31		105 E	Veg / Soil
12-Apr-10	38		0387277	4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9		90 E	Gravel
13-Apr-10	9		0385923	4880048	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body	19		270 W	Gravel
14-Apr-10	29		0384729	4888584	WS	Red-tailed Hawk	bird	Fresh, < 3 days	Decapitated	26		110 E	Soil
14-Apr-10	30		0384732	4888638	WS	Wilson's Snipe	bird	Old, ~ 5 days		60		180 SE	Grass
15-Apr-10	21		0382244	4887381	JL	Red-tailed Hawk	bird	Fresh, 1-3 days	Neck (?)	4		330 N	Soil / Rock
15-Apr-10	64		0386550	4883697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck	40		330 N	Hay / Mud
21-Apr-10	49		0387565	4886868	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1		158 S	Gravel
22-Apr-10	9		0380924	4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28		260 W	Grass
23-Apr-10	56		0365846	4890236	JL	Mallard	bird	Fresh, < 1 day	Neck / Head	10		235 SW	Soil
23-Apr-10	79		0384552	4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10		50 NE	Soil / Veg
26-Apr-10	2		0382125	4891651	WS	Douglas-crested Cormorant	bird	Fresh, 3-5 days	Headless	31		320 N	Swamp
26-Apr-10	1		0380953	4891108	WS	Mallard	bird	Fresh, < 3 days	Footless	35		320 N	Grass
26-Apr-10	65		0361077	4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31		60 N	Grass
26-Apr-10	26		0382110	4891660	WS	Wilson's Snipe	bird	Fresh, < 3 days	Broken neck	0		40 N	Tower base
28-Apr-10	63		0388780	4893376	JL	Tree Swallow	bird	Old, 2-3 days		40		350 N	Soil / Veg
29-Apr-10	73		0387728	4892954	WS	Bird Sp.	bird	Fresh, < 3 days	Broken neck	22		100 E	Soil
29-Apr-10	24		0382773	4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	48		300 NW	Veg / Soil
03-May-10													

The Wolfe Island studies conducted by Stantec reported hundreds of carcasses with just several reported beyond 50 meters. I believe the furthest carcasses distance reported was 59 meters. For 400 ft tall turbines this is not reality and it is simply not possible. **What is possible is that 50-80% of the carcasses were not reported and this was never disclosed.** The wind industry's own data proves that any carcass hit by a turbine blade has a much better than 50/50 odds or 1 of 2 chance of this carcass

landing at a distance beyond a turbines blade length.

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	4,807 (99.3%)	38 (<1%)	4,845

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.

According to Altamont research around their 100kW turbines, a fraction of the size of those in Stantec studies, wind turbine carcasses travel much further in California. St Lawrence county can expect similar Post Operational studies from Stantec with their impossible nonscientific results.



I have yet to read a single wind industry related study or survey conducted by Stantec, that I consider credible. The results and opinions derived these planned bird and bat surveys, should never be accepted by St. Lawrence County or anyone else in New York.

From: [Kathy Willett](#)
Sent: Thursday, February 14, 2019 6:35 AM
To: [Lio Salazar](#)
Subject: Fountain Wind Project

Please consider this as a formal response to your comment opportunity on this project. Before I begin my response, I have a question that needs to be addressed. Exactly why is this project being called the "Fountain Wind" project? In my mind, any mention of Fountain takes me and many of the population of this area back to the days of the Fountain Fire and all the environmental and personal tragedy involved with that horrific occurrence. As I think of this fire, it is a constant reminder of the fire dangers that are still at risk in the area you are proposing for all of your blasting, digging, power excavation, road building and all of the other environmental interruptions that you anticipate in your preliminary report. I should not have to repeat the findings and dangers in that report.

With fire in mind as an environmental hazard, I will address this subject first. The area that is planned for turbines and roads is located directly adjoining my property on and around Terry Mill Rd, Round Mountain and Montgomery Creek. I own Assessment numbers 029-310-011-000, 029-640-006-000 and 029-200-007-000. It appears from the ambiguous map I have seen that the property line for the project is right on my property line. This area is heavily wooded with new growth from the Fountain Fire and great care and expense have been taken to keep that area as protected as possible from future fires by controlling the amount of new growth and limiting access for any reason including our own personal use as one spark, just one, could cause a devastating fire to erupt. The Carr fire of 2018 is a giant reminder of what one spark can do. I do not allow any trespassing on my private property which includes Terry Mill Rd above the paved portion to the large gate where I assume they are planning to work. The company, their vehicles and their equipment will not be allowed. Additionally, along with the Carr Fire, a fire started near our own property at the same time as the Carr fire. Below is a photo taken from Terry Mill Rd within 2 miles of your intended turbines and disturbances. Because of fire threat, many insurance companies are limiting coverage to this area and once they hear of turbines and the work involving them, I imagine property insurance will be less available than it is now.



This is what I fear will happen with any project at all in the area as all the fires that have occurred have been caused by just an errant

spark. For your further information on the relation of turbines to fires, I would suggest the following articles:

<https://www.telegraph.co.uk/news/earth/energy/windpower/10971762/Wind-turbine-fires-ten-times-more-common-than-thought-experts-warn.html>

<https://www.cbc.ca/news/canada/parry-sound-wildfire-wind-farm-1.4930354>

<https://fox13now.com/2017/09/10/cowboy-fire-sparked-by-wind-turbine-burning-on-1592-acres-near-evanston/>

<https://phys.org/news/2014-07-major-farm-failure.html>

<https://sandiegofreepress.org/2012/08/cal-fire-wind-turbine-generator-caused-wildland-fire-that-charred-367-acres/>

Please read these articles which will give valuable insight into my very heightened concern that this project will highly increase the chance of fire damaging property, lives, wildlife, endangered foliage and Native American lands. Turbine fires are under reported as they are not required to report them however by reading the articles, you can see that even with precautionary methods while constructing the turbines, the fires broke out anyway. Can you imagine how a small fire could spread so swiftly upon the whole ridge and beyond with even just a few turbines running?

My second area of concern is to the natural spring water that has been constantly flowing to my property and for the use of people and wildlife further down the mountain for the last 100 years or so without interruption. At least one of the turbines appears to be planned right on top of these springs. As my family has owned this property for the past 90 years, we have learned through the past generations (6 generations on this land) not to tamper in any way with it's natural flow as it might disturb it's ability to flow to us and to the residents and farm animals below. Tampering with these springs in any way may cause cessation to provide the water this mountain and it's inhabitants and wildlife need to survive here. It would also take away the water used to fight any fires that might occur.

Another concern is the wildlife of this area. There are a multitude of animals, birds, snakes and insects on this mountain and any disturbance to our now peaceful wilderness will have a negative affect on all of these. Insects and birds will be killed and exterminated which will change the ecosystem of the forests and the wild animals of which there are many will be forced from their habitats, most likely downhill which will cause harm to them and to human life. It will destroy the food chain as it now exists.

My next concern is the physical location of these turbines. Your report says approximately "10 miles from Burney", (as the crow flies) completely avoiding any mention of the two towns directly below the proposed area which are Round Mountain and Montgomery Creek. Both are within 3 miles of one another, both have post offices and share many services such as a health clinic, public school, store, restaurant and several private businesses. There are no other communities for at least 20 miles in each direction on 299E however the population of those towns are spread up both sides of the highway, right up to the beginning of the turbines. Is this really an appropriate and safe place to be placing turbines? There are many other areas of Shasta County which are more suited and remote, void of age old populations, for a project such as this. My ancestors, the Coffelt and Buffington family and extended relatives have shaped this county including the cities of Redding and Millville, Montgomery Creek and Round Mountain into what it is today and have served in many civic capacities and to chase all of these old families of settlers out is shameful.

As I mentioned above, my family has lived on this property for approx. 90 years and there are many other families with the same history. We have protected and valued this area for all of these years as we appreciate one of the most beautifully landscaped areas of the state and county; it's solitude, it's numerous species of plants and wildlife and overall peace. This will all be destroyed by the project, we may be forced to leave the area if consequences due to any tampering with the land doesn't result in what this company is trying to convince you of and the value of our property will dramatically go down if all of the effects of these turbines come to pass. Not only us newcomers of 100 years but the Native Americans who have resided in this area for 100s of years.

I am asking you as the representatives of this county, as the representatives of we, it's taxpayers and long time residents to protect our lands from this company and the devastation that can be caused by their interference with our land and our lives. Any good that will come to this county by them will not override the destruction that will be forever done to this exceptional part of our county. It is for this environment that we, it's inhabitants have worked all of our lives to preserve, given our lives to protect and our money to support this historic community. Please consider another location to place those turbines, one that doesn't involve such a vast population of people who have placed these communities as the center of their lives.

Thank you for your consideration,

Kathleen Buffington Willett

kbwillett@gmail.com

31078 Terry Mill Rd
Round Mountain, CA. 96084

Mailing address:
14740 Blue Skye Ct
Draper, UT. 84020

Sent from my iPad

2/4/19

We purchased property at Moose Camp to get away from the highway noise and for the solitude and quiet of the whole area. We want to be able to hear the birds and see the animals that habitat there. We want to see the stars at night and not red lights on windmills or hear the noise from them. We don't want to see windmills or power lines. Our lots are approx. 200 feet from the existing road now.

We both have allergy problems and at our property there isn't much dust problem. Major traffic will stir up the dust and it would be very hard for us to enjoy being outdoors on our property or to attend functions at the hall.

There are many outside functions at the "Moose Hall that the dust and wind windmills would distract from.

We cook and eat out doors morning and night and don't want dust in our food and lungs The dust settles in the whole valley from any construction work or road travel from the prevailing south west winds t all summer.

Hatchet Creek is used for fishing and swimming by camp members and surrounding neighbors. Water does not need to be drawn out of it for road maintenance or any other maintenance. A water truck will not keep the dust down when building the project or for the travel years after.

We hope you don't plan on using the county road through camp for ANY construction at any time.

Marvin and Linda Williams

Ralph Williams
20389 Marquette St.
Burney, CA 96013

Fred Tower
21426 Sleepy Creek Road
Montgomery Creek, CA 96065

RECEIVED

FEB 14 2019

COUNTY OF SHASTA
PERMIT COUNTER

February 12, 2019

TO WHOM IT CONCERN:

This letter's intent is to expressly state our and other's concerns regarding additional windmills proposed to be erected within Shasta County. In retrospect the "other's" include, but are not limited to, other sovereign nations and counties within the United States of America, willing to honestly prioritize the long-range environmental impacts over short-term economic advantages to corporate special interests.

Such concerns are as follows:

1. Disruption to the natural and indigenous topography/terrain, permanently altering established water-shed areas and resultant flow patterns of rivers and streams. Such irreversible alterations will be the direct consequence of the construction of power transmission towers and the clear-cut "shadows" carved upon the terrain and vegetation underlying the overhead power lines and the rights-of-way easements necessary for access and maintenance.
2. In addition to the global impact upon the environment, there are the local factors of established homes, homesteads and residences, directly dependent upon existing collection ponds and surrounding small and large lakes predictably and adversely affected directly or indirectly as mere "collateral-damage" to the [their] "greater-good" in advancement of "energy-independence" derived by additional windmills. The commercial benefits derived from Lake Shasta clearly rest within this water shed area.
3. Permanently-decreased property values are universally documented in windmill farm areas. Shasta County stands in first position to financially benefit from additional windmills, yet such revenues may constitute "unjust enrichment" at the expense of the affected land owners for which there appears NO official provisions to mitigate their reasonable losses.
4. The existing windmills are visible from Redding (50 miles) and additional 600 foot towers will no less scar both the day and nighttime silhouetted mountain-ridge horizon. A string of these windmill towers necessarily creates a physical obstacle to effective ariel "fire-bomber" disbursed fire suppression retardants. Northern California needs NO FURTHER reminders than the Carr and Camp Fires of the devastation of any

impediments to effective wildfire prevention and suppression. Yet publically undisclosed, there appears to be some direct correlation to wildfires and the presence of windmill farms. Though the fan blades and towers are “grounded”, as certainly is the earth, static electrical discharges do occur to “ground” as evidenced by lightning strikes.

5. Wildlife are driven away from the electrical and ionizing effect of low-frequency sound wave harmonics created by windmill fan-blade rotations. Such unseen effects are in addition to the visible fatal damage to all flying creatures passing and/or migrating (birds, bees, bats etc.) in attempting to navigate through a lengthy string of windmills. Regardless of the pandering by those in-line to profit from additional windmills, there will be a cascade of adverse effects upon all living and biological systems. To imagine there would be NO permanent alteration to hunting and fishing upon surrounding properties is delusional. Nature is not mocked by the manipulations of man’s desire to profit from Her---there are NO FREE LUNCHES, and the People are the only tax producers--the rest are tax consumers!
6. Keep in mind these alleged environmentally-safe “projects” are all subsidized by government, which only “has” what it has already taken from its taxpayers. The People, as living sentient beings, will pay and bear the burden, as both governments and corporations are “Fictions”, no more than mental constructs, derived from the “commandments of man” (law) with the intent to control and profit from others.
7. Accountability and responsibility are evasive and, at best, effectively non-existent, when purported “authority” is disbursed through various channels creating “plausible-deniability”. Who will be held responsible for the accuracy of :
 - a. Stated size of acreage involved,
 - b. The beneficiary of any surplus of energy produced,
 - c. Any alleged justification that Shasta County demonstrated a projected electrical power deficit or experienced a shortage,
 - d. Initial cost and long-term maintenance comparisons to solar and hydroelectric power production,
 - e. Cost effectiveness of utilizing prior physical windmill farm locations that are NOW defunct, inoperative and unsubsidized,
 - f. Who was it during the “campaign” waged against trusting naive Burney residents that promised that the “windmill towers would not be visible from town”? So quickly we forget that “campaign” credibility is utterly meaningless!
 - g. Who will attest to the plausibility and preservation of traffic patterns and safety related to congestion, caused by movement of heavy equipment, supplies and construction personnel necessary for additional windmills?
8. Native American Indian Tribe burial sites are reported to be within the geographic borders impacted by the additional windmills.

Mindful deliberation NECESSARY!



Wintu Audubon Society

Birding in Northern California

PO Box 994533
Redding, CA 96099-4533
wintuaudubon.org

February 14, 2019

Lio Salazar, Senior Planner
Shasta County Department of Resource Management
1855 Placer St., Suite 103
Redding, CA 96001

Subject: Notice of Preparation for Use Permit Application 16-007 (Fountain Wind Project)

Dear Mr. Salazar:

Wintu Audubon is pleased to provide the following comments on the Notice of Preparation for the Fountain Wind Project. The Fountain Wind Project proposes to construct and operate up to 100 wind turbines of various heights on approximately 37,000 acres located east of Round Mountain in Shasta County. We have reviewed the IS and the Applicant's Use Permit 16-007 Application and make the following comments on the scope and content we believe must be included in the Draft EIR.

Wintu Audubon has approximately 450 members in Shasta County. Wintu Audubon has an active Board of Directors and Conservation Committee engaged in the conservation and restoration of natural ecosystems, focusing on birds, other wildlife, and their habitats. Wintu Audubon also promotes the enjoyment of the natural environment through education and interactive programs. Wintu Audubon offers its services as a local conservation organization with special knowledge of and concern for wildlife potentially impacted by the project. We are concerned about the bird, bat and other wildlife impacts that may result from this major wind development project.

The CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT (henceforth "CEC Guidelines", CEC and CDFW, September, 2007) make special mention of the role that should be played by conservation organizations such as Wintu Audubon in wind power development projects in California. The CEC Guidelines strongly recommend (at pages 27-29) that project applicants and designers consult with appropriate conservation organizations to design surveys

appropriate to the landscapes and habitats affected prior to public release of draft CEQA documents. Preparing studies and surveys without input from such conservation organizations risks project delays

and results in pressure to accept as adequate studies released with the Draft EIR that may not adequately or optimally capture actual avian and bat use within a wind power site. Exactly one year ago, we cautioned the County in writing (Wintu Audubon letter dated February 14, 2018, copy enclosed) that we had not yet been consulted by the County nor the Applicant to assist with survey designs and protocols. In the year now passed, we have not been consulted by the Applicant nor the County. You have further advised that we cannot receive information on the survey designs and protocols until the data in them has been released to the public in the Draft EIR. This effectively prevents Wintu Audubon from providing input on the design protocols for avian surveys as provided in the CEC Guidelines. Our review of the Initial Study (IS) and the Use Permit 16-007 Application indicates that most of the issues raised by us in our previous letter have not been resolved or responded to.

As stated in our letter of one year ago, we are concerned that the Applicant's bird point count surveys which are presumably now completed do not adequately estimate all avian species that use the project area, nor adequately estimate avian densities. For densely forested habitats of this type and complexity the CEC Guidelines clearly recommend bird use counts be made at 2-week intervals for at least one year (more years if warranted). Although point counts have been apparently underway in 2017 and 2018, they have been done at far lower frequency (effectively once per month at each point) than recommended by the CEC Guidelines, and have only covered Spring and Fall periods of either year. Additionally, to conform to the CEC Guidelines the count points should be every 250 meters (820 feet) within a turbine array. Most of the proposed project's turbine arrays have only one avian count point each, with count point spacings of 1-2 miles. We recommend that the scope and content of the Draft EIR include completed Avian Use Point Count Surveys consistent with CEC Guidelines recommendations. If the Draft EIR is circulated with survey results from inadequately designed surveys, this may delay certification of a Final EIR and may result in a requirement for recirculation pursuant to Section 15086 of the CEQA Guidelines (14 Calif. Code of Regulations §15086).

The EIR should fully examine the potential for mortality to or displacement of special status bird and bat species, that inhabit, nest in, pass or migrate through or forage within this area (including but not limited to greater Sandhill crane, bald eagle, willow flycatcher, yellow warbler, Northern goshawk, Northern spotted owl and great grey owl). The Draft EIR should fully examine the potential for injury or mortality to birds and bats from turbine strikes and power line collisions. The EIR should fully examine the potential for impacts due to disturbance to nest sites and foraging habitats, impacts from increased human intrusion from traffic, noise, road widening and other road improvements, ancillary structures and turbine pads. The Draft EIR should fully examine the potential for habitat losses due to fragmentation of habitats and edge effects of roads, turbines and turbine pads, new powerlines and ancillary structures. Due to the widespread nature of the project with roads and turbine placements in disparate locations, the potential for habitat losses due to fragmentation and edge effects is greater than might be for a project with a more concentrated development pattern.

The IS states that no avian surveys of nighttime migration will be conducted, because most nighttime migration is above turbine rotor elevation in Spring and Fall. It also asserts that radar surveys have been discredited as unreliable. The reasons for this conclusion are inadequately explained in the application. In our letter of one year ago we pointed out that nighttime Sandhill crane migration may descend into turbine rotor range during storm events in Winter. Sandhill crane are known to migrate over the region

in massive quantity in Winter. The CEC Guidelines state: "For nocturnal migratory birds, conduct additional studies as needed if a project potentially poses a risk of collision to migrating songbirds and other species." The use of acoustical or near-infrared survey methods is not discussed. The Draft EIR

must contain a full analysis of the possibility of low-level Sandhill crane migration during storm events, based on data from appropriately designed surveys. We recommend that multiple survey methods (radar, acoustical and near-infrared) be employed to complete nighttime migration surveys in Winter. These surveys could be commenced in Winter 2019 and completed in time for inclusion in the Draft EIR in 2019.

As noted in our letter of one year ago, we are concerned that the widespread configuration of the project including widely disparate turbine sites and many improved access roads, and the attendant construction and operation effects including noise and traffic, will tend to increase impacts on wildlife by fracturing habitats and intensifying edge effects. The Alternatives Analysis of the EIR (per 14 CCR §15126.6) should include alternatives to the proposed configuration which concentrate turbines, roads and other facilities over a more compact project area. Additionally, by utilizing the Site Plan's "Alternate" turbine sites, turbine arrays could be grouped more compactly, reducing road, traffic and noise impacts. These alternative configurations should be analyzed for their ability to decrease impacts to birds and bats, including habitat fragmentation and edge effects.

We concur with the applicant's intention indicated in the IS to design and construct the permanent MET towers without employing guy wires. If MET towers must be guy wired, effective bird deterrents must be installed as recommended by CEC Guidelines. The DEIR should analyze the potential for risk of injury or mortality to birds and bats by MET towers, whether guy wires are required or not.

Figure 17, "Environmental Survey Corridors" of the Use Permit Application is not explained in the text of the application. It apparently attempts to illustrate where environmental surveys will take place, however, it does not specify which surveys or what species are targeted. The survey corridors follow all roads and turbine pads, however, the survey area dimensions are not shown or explained. In many cases, including surveys for avian species, surveys should not be limited to the corridors illustrated. For example, preconstruction nest surveys may require a radius of a mile or more depending on the species. We recommend the Draft EIR include a full discussion of all survey designs with clear description of survey design protocols. Also, the corridors illustrated in Figure 17 do not extend into private in-holdings within the project area, even though the facilities proposed may do so.

As an active conservation organization with special expertise about and concern for the preservation of avian wildlife and its habitat, Wintu Audubon stands ready to continue its assistance to Shasta County during CEQA review, project construction and operation. During implementation of the Hatchet Ridge Windfarm Project, Wintu Audubon participated in the Bird and Bat Technical Advisory Committee (TAC), a very successful mitigation monitoring and adaptive management effort with membership from the windfarm developer, the California Department of Fish and Wildlife, the US Fish and Wildlife Service, and Shasta County. We stand ready to assist with formation and implementation of a bird and bat Technical Advisory Committee for this project, to advise the County on meeting the needs for proper design and implementation of monitoring efforts, mitigation measure implementation and adaptive management. The scope and content of the Draft EIR should include an analysis of how such a TAC could function as part of a mitigation plan for impacts to avian and bat species resulting from the project.

Wintu Audubon

February 14, 2019

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Should you have any questions about the issues raised in this letter or the role that Wintu Audubon is prepared to play during CEQA review and beyond please feel free to contact us.

Sincerely,

Bruce Webb, phone (530)515-5324 and Janet Wall, phone (530)547-1189
Co-Chairs, Conservation
Wintu Audubon Society

Cc: Wintu Audubon Board of Directors
California Audubon



Wintu Audubon Society

Birding in Northern California

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February 14, 2018

Bill Walker, Senior Planner
Shasta County Department of Resource Management
1855 Placer St., Suite 103
Redding, CA 96001

Subject: Use Permit Application 16-007 (Fountain Wind), Informal Consultation per CCR 15063(g)

Dear Mr. Walker:

Wintu Audubon welcomes the opportunity to respond to your request for comments pursuant to CCR 15063(g). Wintu Audubon has approximately 450 members in Shasta County. Wintu Audubon is prepared and pleased to offer its services as a local conservation organization with special knowledge of wildlife potentially impacted by the project. We are concerned about the bird, bat and other wildlife impacts that may result from this major wind development project, and wish to be certain that appropriate studies and surveys are conducted in advance of the preparation of California Environmental Quality Act (CEQA) documents, so that appropriate measures to minimize impacts (including but not limited to turbine and road siting and layout redesign) and appropriate mitigation for impacts which cannot be adequately reduced are fully examined and disclosed during the CEQA process rather than after it.

Due to the potential for mortality to or displacement of special status bird and bat species, that inhabit or migrate through this area (eg. greater Sandhill crane, bald eagle, willow flycatcher, yellow warbler, great grey owl), and potential for fragmentation of their habitats, Wintu Audubon believes an Environmental Impact Report (EIR) must be required for this project. We caution that the results of mortality surveys at the nearby Hatchet Ridge site, although a part of the information sources that are available, must not be used as predominant evidence that bird mortalities will be similar at the site in question. Many habitat features of this site are quite different from the Hatchet Ridge site, including but not limited to variability of terrain and landforms, variability and age classes of conifer species, post-Fountain Fire vegetation characteristics, water features present including seasonal and perennial ponds, lakes and wetlands, and presence of fish-bearing streams. In addition, unlike the Hatchet Ridge wind

farm, the proposed (and alternate) turbine sites are much more widespread across the project area.

We note from a review of the applicant's timelines for CEQA document preparation and wildlife (including bird and bat) surveys, that the applicant may anticipate preparation of draft CEQA documents prior to full completion and report preparation for those surveys. This would be counter to the intent of CEQA to fully disclose the likelihood of impacts prior to circulation of CEQA documents rather than after it, and counter to California Energy Commission's CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT (2007). We submit that all bird and bat use surveys should be completed and incorporated by reference in advance of the release of the draft EIR, so that their conclusions may fully advise the impact, avoidance and mitigation analyses of the EIR.

It is difficult to comment on the adequacy of the design of bird surveys which are currently underway, and perhaps in major portion nearly completed. Point count locations are not displayed with sufficient detail relative to the landforms and habitats in the project area to allow any determination of their adequacy, both in number and location. Moreover, a full analysis of bird habitat types in the project area should be performed to provide the basis for the design of the surveys. We do not have adequate information to determine to what extent and how this was done. We are concerned that bird surveys have been and may continue to be carried out only during spring and fall periods. The area's use by certain bird species such as raptors may vary seasonally by habitat type, so surveys only conducted in spring and fall may not disclose summer foraging ranges by raptors, for example.

For small birds including passerines, the application states 2 years of surveys will be conducted during vernal and autumnal migration windows beginning April, 2017. It further states "completion of this effort will result in data for inclusion in a draft Biological Survey Report, which will be available by first quarter 2018." As noted above, these milestone dates are inconsistent and appear not to comport with the applicant's CEQA review expectations.

The applicant states that no surveys of nighttime migration will be conducted, because most nighttime migration is above turbine rotor elevation. There are, however, anecdotal records that the area has experienced massive low-level migration of Sandhill crane during storm events. The above referenced CEC Guidelines state: "For nocturnal migratory birds, conduct additional studies as needed if a project potentially poses a risk of collision to migrating songbirds and other species." The study cited in the Use Permit application is not fully instructive as to this possibility for this site. The applicant also states that radar surveys have been discredited as unreliable, but the use of acoustical or near-infrared methods is not discussed. The possibility of low level Sandhill crane migration during storm events should be fully examined, and studies designed to further address this if feasible.

We are concerned about the configuration of the project including widely disparate turbine sites and many improved access roads, and the attendant construction and operation effects that will tend to fracture wildlife habitats. We suggest that consideration of alternate configurations that will concentrate facilities and roads and thus lessen the effects of habitat fragmentation should be considered.

The site plan indicates that 4 or more MET towers will be maintained beyond the construction phase and indefinitely during normal operations. Due to the risk of mortality to birds from MET tower guy

Bill Walker, Senior Planner

February 14, 2018

Page 3

wires, the above referenced CEC Guidelines recommend that permanent MET towers should not be guyed at turbine sites, or if guy wires are necessary, then effective bird deterrents installed.

The application presents a number of milestone dates for surveys and related reports. Wintu Audubon would appreciate knowing the approximate revised schedule status for these milestones.

The above referenced CEC Guidelines call for the identification and consultation with conservation groups (such as Wintu Audubon) in advance of design and implementation of bird and bat studies and surveys. We have not been contacted on this project in the past. Although we appreciate the opportunity to consult at this current "early" stage, we have insufficient information on the design protocols for any of the studies underway on this project to determine their adequacy. We trust that studies can be amended or augmented should the need be identified.

The CEC Guidelines also call for identifying conservation orgs such as Audubon to consult with the developer throughout project planning and CEQA review. Wintu Audubon stands ready to perform this role. We can be available by phone or in person for further consultation as necessary to clarify our position on any of these planned studies and reports, and throughout project planning.

Sincerely,



Bruce Webb, phone (530)515-5324 and Janet Wall, phone (530)547-1189
Co-Chairs, Conservation
Wintu Audubon Society

Cc: Wintu Audubon Board of Directors
California Audubon

From: Anne Woodward <a.woodwardmd@gmail.com>
Sent: Sunday, January 20, 2019 7:44 PM
To: Lio Salazar
Subject: Wind Turbines on Buffum Homestead and surrounding acres

Dear Mr. Salazar:

I am a land owner on the Buffum Homestead. Our Quarter Section is adjacent to the land being evaluated for the placement of up to 100 wind turbines.

I am the great great granddaughter of the original deed owner from 1899. Our families have farmed, planted fruit trees, developed water systems, built structures and have had our yearly family reunions there since 1899 (except the one year that there were not enough gas rations to drive cars there during WWII.)

Our Buffum Homestead is a place where we come from New York, Colorado, Oregon, California and Hawaii to gather as a family. It is a place of recreation, reconnection and spiritual renewal. Having the existing 30+ wind turbines already mars the beauty of the land. Currently we can put our backs to the turbines that clutter the ridge and still have some unobstructed views of nature. Adding up to 100 other wind turbines will destroy the existing beauty of the land. It is our history, family and the beauty of the land that draws us from all parts of the United States.

After owning the land for 120 years, building structures, a water system and planting over 1,000 trees, it would be disheartening to see that destroyed by the wind turbines. Imagine trying to camp, talk and relax with those giant turbines in our backyard. There would be no peace and quiet.

In addition, it has already been established that wind turbines kill birds. We have a wide variety of birds on our property, including a nest of Ospreys. I would hate to see them killed or relocated because of the turbines.

Highway 299 is a beautiful scenic highway that would no longer be scenic with additional turbines.

Finally, our land is a vibrant Quarter Section from the Homesteading Act.

1. There are official historical sites on our Homestead certified after the Fountain Fire in 1992.
2. Hunters and fisherman use our land.
3. Our family members come throughout the year to work on the land and enjoy its beauty. It is not simply a place for annual reunions.
4. Our wildlife cameras have spotted bobcats, bear, deer and smaller animals.

I implore you to consider our history, the value of how our land affects our family, visitors, birds, and animals. We would like to leave a wonderful legacy for future generations.

Respectfully,

Anne Marie Woodward M.D.

Tribes

From: [james anguiano](#)
Sent: Thursday, February 14, 2019 4:06 PM
To: [Lio Salazar](#)

To whom it may concern:

My name is Jaime Anguiano and I am the council representative for the Atsuge band of the Pit River Tribe. The Atsuge band opposes this project as we feel it will ruin the scenery of this beautiful land. We also understand that owners can do what they want with their own land so if the project does continue forth, we would like to know how this will benefit the Atsuge band as this will run into our ancestral territory? Will this project have any significant damage to any bodies of water? If this project does continue would your company be willing to donate to our tribal scholarship program or help fund a gymnasium for tribal youth?

Thank you for your time, I look forward to your reply,

Jaime Anguiano

Atsuge Council Representative

Comments regarding the Fountain Wind Project – Use Permit 16-007

Shasta County Department of Resource Management Planning Division
Shasta County Board of Supervisors
1855 Placer Street, Suite 103
Redding, California 96001

From Radley Davis
P.O. Box 907
Bella Vista, CA. 96008

Re: FOUNTAIN WIND PROJECT EIR Scoping Comments

I take this personal time to comment to you and your energy developing partners on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP). At the January 24, 2018 Public Scoping Meeting held at Montgomery Creek Elementary School the people were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and to when the public meeting was to be held. And further, even if notified within the timeframe allowed it's unrealistic to expect that each and every person, family and household will respond with analyzing science and ecological tack- it's unfortunately not in our best interest. So, not providing us with the adequate time to respond in the beginning put many of us at a disadvantage and a cause to question the process and to not trust the system.

I am a member of this community and have many family and friends who reside here as well. I care about all the people and have respect for all people. I care about the land, the animals, the elements and all the other ecosystems and habitats that sustain us all. I do not support the Fountain Windmill Project.

As a Pit River Tribal Citizen and member of the Illmawi Band, I will iterate here about the Fountain Wind Project (FWP) similar as to what I said about the Hatchet Wind Energy Project as nothing has changed other than destruction that we see now on Hatchet Mountain and Bunchgrass Mountain and all the other mountains and ridges.

The FWP would have negative impacts on sacred sites and traditional plants. Hatchet Mountain is used for cultural practices and these traditional values need to be protected, especially at sacred sites. This visual impact of the high wind towers on the ridges will destroy the integrity of the natural setting of this sacred area. Birds traditionally important to the Pit River culture, such as eagles, osprey, ducks, and geese cross the ridge and can be entangles in the blades. Migration routes of deer who cross the ridge will be disrupted. The sound quality issues would also affect the serenity and isolation of the ridges, perhaps disrupting bird and animal patterns, as well as disrupt

the human experiences in the area. Bunchgrass Mountain and all its surrounding habitat will continue to degrade in its slow desecration from the Hatchet Wind Project and may feel more degradation from the FWP. Most importantly, an old trail along the top of the ridge tops, connecting the Pit River to Goose Valley to the Lassen area was used to reach remote areas during vision quests- such vision quest continue among some young men and women today. The ridge also serves as a Band boundary between the Itsatawi, Madesi and Atsugewi Bands- hence the project evokes concern from all tribal areas. Much of this trail appears on old General Land Office Maps.

AETHETICS:

These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.

Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that "the change in visual character is not anticipated to be significant." This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual analysis should be done to one or more wind turbines, implying that only a small number, perhaps one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report should include analysis of views from all the nearby homes with modified photographs depicting all of the proposed Industrial Wind Towers (IWTs) installed for daytime and nighttime. The views should also be collected from other surrounding areas including, Bella Vista and parts of Redding, Fall River Mills, Lassen Volcanic National Park and Big Valley Point. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5, Summit north of Adin in Modoc County coming from Alturas and the top of Little Mount Hoffman Summit 3 miles outside Medicine Lake in Siskiyou County and these will be closer for some and much larger and much taller. The analysis should also include the various private homes of local residences in the area as was discussed as the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away from their homes. The permanently cleared areas or minimally re-vegetated areas, including those for the underground and above ground transmission lines should also be considered. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for 50 to 75 miles. Some local residence already complain of being

able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and should be used as a factor to establish significance. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project..." (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefor cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

A "No Project" alternative would mitigate these impacts and many others. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired cleanly without the visual and other environmental impacts the Fountain Wind Project will have.

I agree with my neighbors who say the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the Fountain Project's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines.

The existing Hatchet Wind Project uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as "Nite Guard Solar-Powered Night Animal Predator Light". This company claims that scientific studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched. This activity is threatening to animals, further studies by this company also conclude that this product works on all night animals and they react the same way to the red flashes. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, foxes, bobcats, muskrats, bears, cougars, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal and natural balance of the ecosystems.

AGRICULTURE AND FORESTRY RESOURCES:

I concur with my neighbors in saying that the temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over 981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

AIR QUALITY:

The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction

site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS:

I agree with my neighbors in saying that significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is No Benefit to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US automobile in 2012. According to a recent USDA article entitled "Nature's Benefits: Carbon Sequestration" this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

BIOLOGICAL RESOURCES:

Various studies are referred to in the EIS but are not available on the County's Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. However, when in fact the proximity of two known nesting sites (within 1 mile and 1.75 miles respectively) imply that take is probable. Similarly, other potential take of species and disruption of native habitat were enumerated in the California Department of Fish and Game response to the Hatchet Wind Project, including impacts to the northern spotted owl, sandhill cranes, Ferruginous Hawks, Great Grey Owls, bats and other birds as well.

The United States Fish & Wildlife Service regulations under the Bald and Golden Eagle Protection Act (Eagle Act), incorporates consideration into section 106 National Historic Preservation Act responsibilities. "...regulations authorizing non-purposeful take under the Eagle Act, the Fish and Wildlife Service has officially recognized that some tribes and tribal members may consider eagle nests and other areas where eagles are present to be sacred sites provided for in the American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996). Such sites may also be considered Properties of Traditional Religious and Cultural Importance (PRCI under NHPA) to an Indian Tribe (also commonly referred to as Traditional Cultural Properties or TCP's), and as potential historic properties of religious and cultural importance under the NHPA. Such sites are not limited to currently recognized Indian lands, and they occur across the entire aboriginal

settlement area. TCP's may be areas where eagles nest and have nested within living memory. Thus, a landform or landscape known for eagle habitation—a ridgeline, canyon, lakeshore, river valley, mesa, mountain, etc.—may be considered by tribes as suitable for TCP designation. Because an eagle or eagle nest can be considered a contributing feature or element or a TCP or sacred site, issuance of the proposed permits for eagles would constitute an undertaking requiring compliance with Section 106 of the NHPA, and may also require government-to-government consultation with tribes.” These federal policy statements are acknowledging the relationships between species and sacred sites and religious practices in respect to cultural places.

Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.[108] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them [74].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporary reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data

from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects [14].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation) [2]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water [2]. As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Further, the FWP would threaten the integrity of Montgomery Creek and aquatic species dependent on the constant flow, clarity, chemistry and temperature of the natural water flow coming out of the mountains. Protection of water quality insures protection of this premier biological resource. FWP is home to distinctive wildlife and plant species that thrive in its old forests.

There are several areas in the Highlands that support terrestrial management indicator species as well as state and federal sensitive, threatened or endangered species. Examples of such wildlife include: great gray owl, Cooper's hawk, sage grouse, bald eagle, osprey, northern goshawk, northern spotted owl, pileated and hairy woodpeckers, numerous bats, American marten, black bear.

I believe that the proposed FWP would violate the National Forest Management Act (NFMA) for the protection and preservation of old-growth dependent species. And further, it is against the law to murder EAGLES, as they are protected along with other endangered species of the area.

I agree that the naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways.

Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

Cultural and Tribal Cultural Resources:

Indigenous History negatively impacted by the Fountain Wind Project:

Hatchet Mountain, Bunchgrass Mountain and the surrounding other specific mountains and ridges are of great spiritual significance to the Pit River Tribe, especially the Itsatawi, Madesi and Atsugewi Bands. Tribal elders consider this area sacred and continue to use numerous important spiritual and cultural sites within the region. There is a finding of sacred areas that was established in the Hatchet Wind Project as it was discussed in the "Hatchet Ridge Wind Project", Pacific Legacy, Inc. July 2007. Appendix C. Confidential Information- Native American Heritage Commission Sacred Lands Inventory.

The ACHP has identified nine articles that intersect with the mission and work of the ACHP and with the Section 106 review process. They are Articles 8, 11, 12, 15, 16, 18, 25, 31, and 38. This guidance addresses the relationship between Article 18 and the tribal and Native Hawaiian Organization (NHO) consultation requirements in the Section 106 process.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of undertakings they carry out, assist, fund, or permit (undertakings) on historic properties and to afford the ACHP a reasonable opportunity to comment on such undertakings. Federal agencies meet these requirements by completing the Section 106 process set forth in the implementing regulations, "Protection of Historic Properties," 36 C.F.R. part 800. The goal of the process is to identify and to consider historic properties that might be affected by an undertaking and to attempt to resolve any adverse effects through consultation.

Both the NHPA and the Section 106 regulations require that federal agencies, in carrying out their Section 106 responsibilities, consult with any Indian tribe that attaches traditional religious and cultural significance to historic properties that may be affected by the undertaking. The regulations provide both general directions regarding consultation at Section 800.2(c)(2) as well as very special steps to be taken throughout the process.

United Nations Declaration on the Rights of Indigenous Peoples is a comprehensive statement about the rights of indigenous to maintain and strengthen their own institutions, cultures, and traditions and to pursue their development in keeping with their own needs and aspirations. There are 46 articles in the Declaration that address a wide range of issues facing indigenous peoples. The article which is the focus of this particular comment is Article 18:

“Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.”

Article 18 and the Section 106 Process. The Declaration, while not having the force of law, expresses ideals. Article 18 of the Declaration addresses the right of indigenous peoples to participate in decision making when our rights would be affected. The scope of this article is very broad, covering all rights to which indigenous peoples are entitled. However, Section 106 and its implementing regulations do have the force of law. The scope is narrower in that it addresses only the consideration of impacts of undertakings on historic properties, but broader in the sense that it applies regardless of who holds “rights” to such properties. So, Section 106 is consistent with the thrust of Article 18 of the Declaration in various aspects.

For example, Section 101(d)(6)(B) of the NHPA and the Section 106 regulations require federal agencies to invite Indian tribes and NHO's to participate in Section 106 consultation when an undertaking may affect historic properties of traditional religious and cultural importance to them. These consultation requirements are intended to ensure that Indian tribes and NHO's have the opportunity not only to identify those places of religious and cultural importance to them (sometimes referred to as sacred sites) but also to influence federal decision making in order to protect those places. While other federal directives and statutes may require that federal agencies seek information from Indian tribes and NHO's, the NHPA requires federal agencies to invite them to participate in the consultation process to identify, evaluate, and resolve effects to historic properties of religious and cultural importance to them. Moreover, this obligation to consult is triggered regardless of whether the tribe or NHO holds a “right” over the property at issue. All that matters is that the historic property is of traditional and cultural importance to the tribe or NHO.

In order for consultation to be meaningful and effective, it must begin as early as possible in project planning to fully afford all, including Indian tribes and NHO's, an opportunity to express the full range of their interests and concerns. The Section 106 regulations at 36 C.F.R. 800.2(c)(2) state that:

"The agency official shall ensure that consultation in the Section 106 process provides the Indian tribe or Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects. It is the responsibility of the agency official to make a reasonable and good faith effort to identify Indian tribes and Native Hawaiian organizations that shall be consulted in the Section 106 process."

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

CULTURAL RESOURCES:

The proposed FWP area is highly significant to the cultural and religious ways of the Pit River Tribal peoples as a whole as there are spiritual ties of refuge, ceremony, healing, prayer, fasting and other sacred uses. Besides impacting the Indigenous peoples, there are negative impacts to the habitat of animals, migration routes, trees, plants and the visual and air quality of this area.

GEOLOGY AND SOILS:

Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

HAZARDS AND HAZARDOUS MATERIALS:

I agree with my neighbors in the initial findings of the EIS for this section it speaks of "Nonhazardous batteries being stored in the substation." What are nonhazardous

batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

The EIS states that there is no currently adopted emergency response plan for the project area and that it would not interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, Moose Camp). It also goes on to state that this project does not conflict with goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of earlier Environmental Impact areas discussed in the EIS and identified as potentially significant. The fact that many studies and further analysis have yet to be completed should have prevented these statements from even being made. This project will definitely increase the risk to property and life due to the increase risk of fire in the area, as compared to a "No Project" or "Alternate-Site" alternative. As stated earlier this project will definitely interfere with aerial firefighting efforts and other emergency response efforts in the near the FWP. Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress especially during the construction phase and the firefighting limitations for the local communities and the project area itself. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing risks in

this area. This area is considered to in a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also

causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations or emergency response vehicles access could be severely limited. Also, emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25%, within the FWP area require aircraft fire suppression tactics to effectively fight fires in the area. These factors should be addressed in the EIR.

In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called "Wildfire." Scoping comments to the above question will be made to that section later in this document.

HYDROLOGY AND WATER QUALITY:

The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely on creek and spring water instead of wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing ecosystem that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 foot wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and their impacts to water quality, fisheries and the local community.

LAND USE AND PLANNING:

The EIS gives a "less than significant" impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is no demonstrable need for this project. (3) The project is not justified when compared to alternatives. And (4) the project will be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

NOISE:

IWTs generate infrasound, low frequency sound generally below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people's health and feelings of general wellbeing near IWTs. It may also effect animal behavior and general wellbeing as well (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.[14]

A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has shown in animal models an effect similar to sea sickness. [36]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.[37] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.[38] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.[39][40]

In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was "considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine." [41][42][43]

The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

POPULATION AND HOUSING:

We lost our home owner insurance due to fire risk – primarily due to the devastating CARR and CAMP fire. The FWP will cause high fire risk.

PUBLIC SERVICES:

As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area even what would normally be considered a quick response time by local firefighting personnel may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations. Any

proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is a large risk in this area.

TRANSPORTATION/TRAFFIC:

The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily basis. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Super Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

[4] Eric Jay Toll, "California pays APS to Take Surplus Solar Power" Phoenix Business Journal, October 5, 2016,
<https://www.bizjournals.com/phoenix/news/2016/10/05/california-pays-aps-to-take-surplus-solar-power.html>

Based on the 2018 California Energy Commission Renewable Energy 2018 report California's evolving electricity market has been shifting largely due to the increase in self-generation and rise of Community Choice Aggregators (CCAs). CCA's are local public agencies, typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for an Evolving Energy Market* reports that by the end of 2018, as much as 25% of IOU retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation. 1 As indicated in previous communications with the Transmission Agency of Northern California previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest. With the CPUCs already raising concerns of reliability and load uncertainty this will only be exacerbated by the

additional transmission lines proposed by the Fountain Wind Project. According to the CPUCs 2018 report solar power has dropped in price and is on the rise, especially since the mandate of all new homes beginning in 2020 must have solar power, and large businesses along with military bases are moving to renewable energy. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy and how it will be sourced.

i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and BTM technology penetration to meet statewide goals for reliability, decarbonization and affordability?

[1]

https://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf

The California Public Utility Commission (CPUC) released a report in May warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern is that CCAs have fractured regulatory decision-making around reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC. 2

[2] Alexander Stevens, "Deregulation Shouldn't be Blamed for California's Grid Problems" Institute for Energy Blog, June 4, 2018,

<https://www.instituteforenergyresearch.org/the-grid/deregulation-shouldnt-blamed-californias-grid-problems/>

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and behind the meter technologies the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Market* (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core

principles are met. The *Choice Action plan and Gap Analysis* indicates the CPUC “lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that is not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement.” 3

[3] Diane I. Fellman, Choice Project Team Lead, California Customer Choice Project, Choice Actin Plan and Gap Analysis, December 2018, http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf

a) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, in addition to the information listed above regarding the CPUC’s effort to determine how to move forward with regard to the Choice Project Gap Analysis it also conflicts with the already established hydro electrical efforts from the Pit River and Shasta Dam efforts.

According to the 2018 CPUC report California is ahead of its current renewable energy goal targets. The report shows the goals have been set and achieved with 33% for 2020 and it shows we are at 34% in 2018.

Energy Efficiency – we are currently The CPUC’s 2018 “Choice Action Plan and Gap Analysis” final report from December 2018 will need to be reviewed further and the state and local plan gaps should be addressed. With the recent PG&E bankruptcy and the state’s role in determining how to move forward this appears to be an area of ‘Potential Significant Risk’ since many of these areas have not yet been explored.

WILDFIRE: – *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastation wildfires that have plagued the area. Per the documentation available on the FWP county web site only local officials were notified to address any emergency evaluation concerns. Considering the recent Northern California fire activity this item should be listed as 'Potentially Significant Impact' with the County providing emergency evacuation plan updates. Also, due to no and/or limited cell phone coverage many resident in the FWP area would not be able to be placed on an emergency 911 evaluation notice should an evaluation be needed. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, the community emergency evaluation plan needs to be, evaluated, addressed and updated before the project developer can indicate if this area has been addressed and how effective any plans would be. Small communities affected by this area have very few exit routes from the project area which has been shown in the recent Carr, Delta, and Camp fires to have life threatening and devastating circumstances.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The project terrain is steep and inhibits firefighting efforts. Due to steep terrain air craft would need to be used, which would be limited or non-existent, due to project tower height. One of the reason the developer choose this site is the prevailing winds which also cause the most risk. In the recent fires that plagued Northern California the wind has proven to be a substantial factor in moving the wildfires at an unprecedented pace causing numerous deaths to residents of the affected areas. Wind turbines have been documented to explode and catch fire spewing turbine blades, engulfed in flame over larger areas that have been shown to be safe by wind developers. Several communities have restricted any type of wind farm turbines especially in timber and forested areas due to additional fire risk or exacerbated fire risk from exploding turbines, transmission lines, and limited resources in firefighting efforts. On-site fuel to maintain FWP operations and maintenance impose an additional risk factor to an area that has already been identified as "Very High Risk" as indicated by the Cal Fire maps. Wind Turbine fires are under reported by an estimated of 10 times. According to the California Public Utility Commission Report 2018 no issue received more attention than the efforts to deal with increased wildfire threats. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 where ravenous and lightning fast in which California has not seen before. The deadly wildfires drive home the reality the state is facing challenges of keeping people, property and the environment safe. California's fire season is longer and more severe and those challenges are expected to get even worse

with prolonged drought and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the Commission which will lead to refined policies and new state laws. Part of these efforts to implement wildfire safety the CPUC will examine PG&E's current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates. Turbines often catch fire, and when they do they often send flaming shards into fields and forests. Much has been said about the short-term jobs created in preparing turbine sites, but almost nothing about job losses from turbine-caused fires in our paper mills, sawmills and other forest-dependent industries.

Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas. Clyde MacDonald, "Forest Fires and Wind Turbines: The Danger No One is Talking About", June 29, 2011, Bangor News, <https://bangordailynews.com/2011/06/29/opinion/forest-fires-and-wind-turbines-the-danger-no-one-is-talking-about/>

Ontario's Ministry of Natural Resources and Forestry is investigating whether construction crews building a major wind-turbine project on the eastern shores of Georgian Bay amidst tinder-dry conditions caused a forest fire that is now devouring more than 5,600 hectares of land.

Despite "extreme fire hazard" conditions and a region-wide fire ban, a number of workers say crews continued to blast rock and use heavy machinery that had set off several small fires earlier last week. The workers asked CBC News to withhold their names out of fear of losing their jobs. Dave Seglins, "Investigation Underway Into Blaze Devouring French River Park, Which Stared on Henvey Inlet First Nation, July 24, 2018, CBC News, <https://www.cbc.ca/news/canada/ontario-forest-fire-wind-farm-construction-1.4758864>

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completely surrounded by areas of elevated risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Comments: Use some verbiage listed above. High voltage Transmission Lines. 600 foot wind turbines. Concrete base. Blasting efforts to set the concrete bases.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Comments: XXXX

REFERENCES:

- [2] Wanless, Jenny. Editorial, Nature & Society, Journal of the Nature and Society Forum, October-November, 2011.
- [108] Morin, Monte. 600,000 bats killed at wind energy facilities in 2012, study says, *LA Times*, November 8, 2013.
- [14] Mikołajczak, J.; Borowski, S.; Marć-Pieńkowska, J.; Odrowąż-Sypniewska, G.; Bernacki, Z.; Siódmiak, J.; Szterk, P. (2013). "Preliminary studies on the reaction of growing geese (*Anser anser f. Domestica*) to the proximity of wind turbines". *Polish Journal of Veterinary Sciences*. **16** (4): 679–86. doi:10.2478/pjvs-2013-0096. PMID 24597302
- [36] King, Simon (12 June 2015). "Wind farm effect on balance 'akin to seasickness': scientist". *News Corp Australia*.
- [37] Rogers, Anthony; Manwell, James (2006). "Wright". *Sally*. 9. CiteSeerX 10.1.1.362.4894.
- [38] Salt, Alec N.; Kaltenbach, James A. (19 July 2011). "Infrasound From Wind Turbines Could Affect Humans". *Bulletin of Science, Technology & Society*. **31** (4): 296–302. doi:10.1177/0270467611412555
- [39] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, SayedAbolfazl; Yousefzadeh, Arsalan (June 2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. Bibcode:2015FNL....1450020A. doi:10.1142/S0219477515500200
- [40] Bolin, Karl; Bluhm, Gösta; Eriksson, Gabriella; Nilsson, Mats E (1 July 2011). "Infrasound and low frequency noise from wind turbines: exposure and health effects". *Environmental Research Letters*. **6** (3): 035103. Bibcode:2011ERL.....6c5103B. doi:10.1088/1748-9326/6/3/035103
- [41] "Wind-farm workers suffer poor sleep, international studies find". *The Australian*.
- [42] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, Sayedabolfazl; Yousefzadeh, Arsalan (2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. doi:10.1142/S0219477515500200
- [43] Inagaki, T.; Li, Y.; Nishi, Y. (10 April 2014). "Analysis of aerodynamic sound noise generated by a large-scaled wind turbine and its physiological evaluation". *International Journal of Environmental Science and Technology*. **12** (6): 1933–1944. doi:10.1007/s13762-014-0581-4
- [74] Baerwald, Erin F; D'Amours, Genevieve H; Klug, Brandon J; Barclay, Robert MR (2008-08-26). "Barotrauma is a significant cause of bat fatalities at wind turbines".

Current Biology. **18** (16): R695–R696. *Bibcode*:1996CBio....6.1213A.

doi:10.1016/j.cub.2008.06.029. *OCLC* 252616082. *PMID* 18727900

[109] Davidoff, Daniel. "Wind Power Found To Affect Local Climate." *Scientific American*, The Conversation, Sustainability. The Conversation, February 14, 2014.

2/14/19

Greetings,

My name is Gregory Feather Wolfin, Illmawi Band Representative and Citizen of the Pit River Nation. First and foremost, I support the No Action Plan for the Fountain Wind Project. While being from the inter-mountain area, through my observations, the existing Hatchet Ridge Wind Project has negatively impacted the aesthetics of the natural landscape and will prove to have a detrimental impact to the environment and will foresee the Fountain Ridge to have the same impact as well. A concern that I have is the potential impact to the water quality; streams, creeks, peats, bogs and meadows. Will these be protected? Members of the Pit River Tribe continue to maintain a historical and metaphysical relationship with the geological satellites within the area and possess deep cultural ties with the lands. I and other members are certain that there will be adverse effects caused by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance. I also have concern to the migratory pathways of the raptors, avians, and fauna that frequent the area; is this a concern of the Shasta County Board of Supervisors and the owner of the company?

Pg 1

Public Comment Card

Fountain Wind Project
 Comment Period: January 15, 2019- February 14, 2019

Short
 List

Commenter Name/Affiliation: TONY YANKIE, Enrolled member (Pit River)

CULTURAL RESOURCES REV. ILMARI BAND. (Tribe)
 Comment: My concern for potential IMPACTS

NO vote for Project. WP. Project is another for
Profit enterprise that desecrates our Pit River
ancestral territory (on a percentage of it). 1840s Government
awarded tracts of land to white farmers/ranchers without
a treaty with Pit River leaders. Farmers/ranchers built
fences & redirected the natural watershed impacting all
mammal & bird migration routes and hunting & fishing
early 1900's Govt sold/leased our indigenous river
& streams to P.E&F & Federal Hydraulic Agencies who
built dams & diversions effectively cutting off salmon
& other fish species ability to reach their upper spawning
sites further damaging P.R. indigenous subsistence
& culture lifeways. 1930's to 2019 Federal forests
permitted to grow ~~forests~~ farms polluting waterways
& sunlight for ^{plant & animal} NATURAL SPECIES PROPAGATION. Early 2000's
Hatchery mtn wind turbine company somehow was awarded
building access inside Pit River Time Immemorial tribal
boundaries desecrating the cultural landscape &

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 2125, Shasta CA 96087

Email Address: DAZYgolden@yahoo.com

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail
 Opt-in to email list (must provide valid email address): ☒ Yes, email Project updates ☐ No, do not send email

Pg 2

Public Comment Card

Fountain Wind Project

Comment Period: January 15, 2019- February 14, 2019

Tony Yumilis, Enrolled member
Cultural Resources Rep Dinwiddie Band(Pit River
tribe)

Commenter Name/Affiliation:

2016-2019 County of Shasta Applicant

Comment: 2019 Fountain Wind Project + Avangrid

Renewables, P.W.D., LLC. PROPOSE to further desecrate

Pit River Indigenous tribal ~~land~~ territory

with up to 100 wind turbines + 597' tall!

Myself & other concerned PR tribal members are

currently Pre-Planning / gathering ideas on how to

have the ^{current} Hatchett Ridge wind turbines cancelled and

removed - L&S along allowing a second, larger

wind turbines project to be constructed! Eight-

thirteen wind turbines are visible to the Boney

community and make us visibly ill to look at

day after day, etc. affecting ^{the} emotional healthof the community. ^{Boney to Reddy} Other Impacts: EMP,water erosion + mudslides, ^{Increased} wildfire threat, etc. to

Montgomery Creek community & surrounding area.

MitigationRelocate ⁽¹⁾ project to a low or no population community(2) Research Potential Solar Farm (3) Use less electrical
wires so no new electrical towers neededPrivacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P O Box 2125, Shasta, CA 96087

Email Address: dizzygolden@yahoo.com

Opt-in to mailing list (must provide valid address):

☐ Yes, mail Project updates☐ No, do not send mail

Opt-in to email list (must provide valid email address):

☒ Yes, email Project updates☐ No, do not send email

DATE: February 14, 2019**TO: Shasta County, Department of Resource Management Planning Division
representatives and Shasta County Board of Supervisors****SUBJECT: Madesi Band of the Pit River Nation Comments and Opposition to the
Fountain Wind Project (Use Permit 16-007)**

The Pit River Tribe is a federally recognized Tribe composed of eleven autonomous bands located in Northeastern California since time immemorial, in which the Madesi Band is included. It is clear that the Madesi Band's Ancestral area lies within this proposed Fountain Wind Project (Use Permit 16-007).

The Madesi Band as part of the Pit River Nation has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the original peoples of the Pit River. This duty includes maintaining the health and integrity of the Natural World for future generations. These natural and cultural resources which are indistinguishable from the Pit River Peoples are a central element of our spirituality, traditional ceremonial practices, religious expressions, history, and identity. Given these facts this project would significantly disrupt the harmony between the Madesi Band and the Pit River world.

Therefore the Madesi Band is in opposition of the Fountain Wind Project due to numerous negative impacts and environmental concerns that this massive project of nearly 40,000 acres presents to our Citizens, known Cultural Resources, watershed, plants, animals, and overall ecosystem which include but is not limited to:

- **Indigenous History** - The topography of the Land in question is central to our identity, oral traditions and history, changing it in such a drastic fashion would be unthinkable. And be interpreted as an attempt to erase our people from history.
- **Habitat** - The proposed Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and air quality of this area.
- **Freedom of Religion** - This project would have irreversible negative impacts on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance.
- **Continued Use/We are still here/We still exist** - The project area is highly significant to the cultural and religious ways of the Tribe as a whole. The PIT RIVER TRIBE and its NATION has deep ties to this place of refuge, ceremony, healing, prayer, fasting and other sacred traditional uses.
- **Misrepresentation** - The Fountain Wind Project developers have not acted in good faith, representing themselves as an American company located in Oregon, but are actually owned by an organization out of Spain. These out of country interests have demonstrated a lack of concern for our local culture, environments, and overall ecosystem as evidenced by the current Hatchet Wind project in this area.

- **Exploitation** - This community and general area is already being overstretched and exploited with power generating activities such as the existing Hatchet Wind Farm, power lines, dams, PG&E hydroelectric activities that are contributing to fish species extinction, and other harmful conditions such as cyanobacteria/toxic algae which put all communities members at risk. Our rural community is carrying too much of the burden for the benefit of others and to the detriment of our health and safety.
- **Inefficient** - There is a significant loss of power when energy is transmitted over long distances proving this project to be inefficient and wasteful, and therefore lacking integrity.
- **Oppression** - These types of projects/companies, comparable to the nearby Hatchet Wind farm have demonstrated a pattern of behavior of targeting socio-economically suppressed areas, and exploiting them for personal gain. Further suppressing these communities by lowering property values in and around the surrounding project areas and from extremely long distances in from which they can be seen day and night.
- **Local Economy** - Our community relies heavily on recreation and tourism in our economy which will be negatively impacted by these monstrosities.
- **Aesthetics/Viewshed** - These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.
- **Red Flashing Lights** - The existing wind farm uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as “Nite Guard Solar-Powered Night Animal Predator Light”. This company claims that scientific studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched, this is threatening to animals, further studies by this company concluded that this product works on all night animals and they react the same way to the red flash. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, fox, bobcats, muskrats, bears, cougar, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal, natural balance of the ecosystem.
- **Watershed** - The proposed project area is an integral part of the biological and watershed resources of this community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of community members.
- **Lassen National Park** - Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors.
- **Hunting and Gathering** - This project will disrupt long standing traditional hunting and gathering practices.

- **Illegal “Take”** - The current Hatchet Windmill project kills culturally and environmentally critical birds and other avian species. The USFW does not currently monitor this illegal activity, and is currently unaware of any applications from the existing wind farm for incidental take permits, which is required to continue murdering protected species such as Golden and Bald Eagles. Current protection processes, monitoring, and enforcement with these types of projects are lacking.
- **Traffic/Infrastructure** - Highway 299 is not currently equip to handle additional traffic, and is prone to commercial accidents on a regular basis putting the community at risk of increased travel related danger.
- **Scenic Area of National importance** - Highway 299 is a historic byway and the gateway to what President Theodore Roosevelt named “The eighth wonder of the world”, Burney Falls.
- **Emergency communications** - This project could cause emergency communication interference, which can include television and cell reception.
- **Abandonment**- Other projects of this type in California have been left abandoned leaving a land scar of nonoperational outdated windmills. The equivalent to a junk yard.
- **Ignores real issue** - The Fountain wind project does not address the real energy generation issue, which is the need for efficient delivery and storage of excess power already generated in California. This proposed project only serves to mask and compound this serious infrastructure deficiency.

Therefore the Madesi Band upholds its opposition to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Thus, the Madesi Band must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

Further the Madesi Band rejects the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a “No Project Alternative” which includes No use permit, No commercial scale energy project on the proposed site.

Respectfully,

Brandy McDaniels, Pit River Nation Madesi Band Cultural Representative

From: Brandy McD
Sent: Friday, February 22, 2019 2:50 PM
To: Zalynn Baker; odanzuka@pitrivertribe.org; Lio Salazar
Subject: Fw: Fountain Wind Project Info/Forestry/Wildfire/Office of
Emergency Services issues
Attachments: FOUNTAIN WIND PROJECT EIR Scoping Comments Final 2-
13-19.pdf; FWP Use Permit 16-007 opposition resolution -
Pit River Tribal _20190214_161927.pdf; Madesi Band
Cultural Rep FWP opposition - comment letter 2-14-19.pdf

Zalynn and Orvie,

I'm not sure how much you many know about the current proposed Fountain Wind Project that is proposed to take almost 40,000 acres in the Ancestral territories of Madesi, Itsatawi, and Atsugewi Bands. The Pit River Tribe is in opposition of this project, see attached opposition resolution. Also the Madesi Band is in opposition of this project, see attached Madesi Band Cultural Rep comments submitted to Shasta County.

Also, see the attached 36 page comments submitted by local non-native community members who live about 5 miles down Big Bend road. Their comments detail, and site sources, of why this proposed Fountain Wind Project should not be approved by Shasta County = "No project alternative" or "Alternate site alternative" should be selected by the Shasta County Board of Supervisors. As there is no way to mitigate the impacts, health, and safety issues that accompany this project. One of the major emergency/catastrophic events that these projects are prone to cause are wildfire. As these windmills act as lightning rods and are known to spontaneously combust, and fire fighters are restricted from flying in the vicinity of these windmills to drop retardants, which puts our community in extreme danger, as we well know from the recent fires in our immediate surrounding areas such as the Delta, Carr, Hertz, and Camp fires.

Sorry for the late notice on this issue as the comment period to the County is 5pm today, but I am still learning about all the adverse impacts of this proposed project and just got more info regarding the wildfire portion last night. See more on those specifics in the 36 page document attached, you can scroll down to that section.

Here is how to submit comments:

https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project

https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/eir/fountain-wind-project/other-ways.pdf?sfvrsn=e708fa89_2

You can email directly to Lio Salazar:

lsalazar@co.shasta.ca.us

Welcome to the Shasta County Department of Resource Management's website for the California Environmental Quality Act (CEQA) review of the Fountain Wind Project proposed by Pacific Wind Development, LLC.

www.co.shasta.ca.us

FOUNTAIN WIND PROJECT (UP 16-007) EIR Scoping Comments

From: Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA

Dear Mr. Salazar,

Thank you for the opportunity to comment on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP) and for the public meeting held at the Montgomery Creek Elementary School on 24 January. We were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and when the public meeting was held. It is hoped that by signing up for the email notification system via the County's website, we will be allowed the full allocated time to comment on the draft EIR when published.

Our following comments are based on information provided by you and others at the scoping meeting and online, including the Environmental Initial Study (EIS), Pacific Wind Development LLC, dated 28 June 2018 and the California Environmental Quality Act (CEQA) Document. The guiding statutes of the CEQA should be strongly considered when evaluating this proposed project, in particular in Section 21001 ADDITIONAL LEGISLATIVE INTENT which states "The Legislature further finds and declares that it is the policy of the state to: (a) Develop and Maintain a high-quality environment now and in the future, and take all action *necessary to protect, rehabilitate, and enhance the environmental quality of the state*. (b) Take all action necessary to provide the people of this state with clean air and water, *enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise*. The EIR should clearly identify how this project **does not** support the Legislative intent of the CEQA because of the Significant Environmental Impacts.

Additionally, according to the Shasta County Code SCC Subsection 17.92.025- Use permits for high voltage electrical transmission and distribution projects.

- G. The purpose of this subsection is to establish criteria for High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County, and shall apply to all such projects, including, but not limited to, projects submitted by municipal utility districts pursuant to Public Utilities Code Section 12808.5. High Voltage Electrical Transmission and Distribution Projects may only be approved or conditionally approved if **all of the following** findings are made based on substantial evidence in the record:
1. The proposed project is consistent with the General Plan and any applicable specific plan(s);
 2. There is a demonstrated need for the proposed project;

3. The project, including route and facilities location and equipment appearance and design, is justified when compared with alternatives, and there are no feasible alternatives that would substantially reduce the adverse effects of the project as proposed; and
4. The proposed project will not, under the circumstances of the particular project, be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the proposed use or be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the County; provided, if the proposed project is necessary for the public health, safety, or general welfare, the findings shall so state.

For purposes of this subsection, the term "demonstrated need" means that the applicant has shown that the project is necessary to promote the public health, safety, welfare, and convenience; the term "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

As shown later in this document the FWP does not meet the criteria of SCC 17.92.025G. (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region.

Several Countries throughout the world and several states, such as Oklahoma and several counties in California, have restricted or banned further Industrial Wind Turbine (IWT) installations because of health and significant environmental impacts. IWTs are a significant fire risk, acting as lightning rods and at such a height that fires can't easily be extinguished. Several Counties within California such as Los Angeles, San Diego and San Bernadine have either banned or restricted further IWT installations and these are the counties with the greatest populations and need for the electrical energy. Shasta County already produces more power than it uses, why should the local residents sacrifice their wellbeing when even in the high power usage areas those residents are not willing to do the same. We strongly recommend that a **“No Project”** or **“Alternate-Site”** alternative, discussed further in this document, be adopted due to the significant environmental impacts of this project.

PROJECT ALTERNATIVES:

According to the California Environmental Quality Act (CEQA) guidelines Section **15126.6. CONSIDERATION AND DISCUSSION OF ALTERNATIVES TO THE PROPOSED PROJECT**, an EIR should consider reasonable alternatives to the project as a whole and not just for some impacted areas. In Subsection (c) “The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects.” This

CEQA guidance does not limit the alternatives to those available in Shasta County alone so those outside the immediate area, as will be suggested later in this document, should also be considered. It is assumed that one of the primary objectives is to produce electrical energy from wind in order to reduce so called green-house gasses and other environmental impacts of fossil fuel energy development. Additionally, in Subsection (e) a “**No Project**” alternative should also be evaluated. The “**No Project**” alternative should discuss “*what would be reasonably expected to occur in the foreseeable future if the project were not approved.*” This would obviously mean avoidance of those environmental impacts that are so disturbing to the local residences and should trouble others throughout Shasta County; especially the resulting increased Fire Risk with its very real possibility of devastating the area and causing the loss of life, and the significant impacts to the Scenic Value of the existing environment. The “**No Project**” alternative should be identified as “Environmentally Superior” according to CEQA guidance.

Also, the guiding statute for consideration of alternative or mitigation measures, including alternate sites as defined by the CEQA guidelines Section **21002. APPROVAL OF PROJECTS; FEASIBLE ALTERNATIVE OR MITIGATION MEASURES** state: *The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.* The “**Alternate-Site**” alternative discussed in more detail later in this document meets the legislative intent for alternatives per the CEQA guidelines. It also fulfills the objective regarding clean renewable energy production and should also be identified as “Environmentally Superior” to approval of the FWP. The financial considerations used in determining feasibility should not include premature contractual obligations such as leasing of land or future power generation/distribution contracts that the developer may have prematurely entered into prior to public review and approval of the proposed project.

PROJECT DESCRIPTION:

As was pointed out by a local resident at the 24 January Scoping Meeting there is a significant problem with the inconsistencies in the stated acreage of the project, which leads one to wonder if there are other inaccuracies in the project description or what exactly is being evaluated in the EIR. The acreage is listed as 43,743 acres (lot size) in the Planning Permit Master Application and as 39,196 in the attachment to the same application. It is described as approximately 38,000 acres in Appendix C of the Environmental Initial Study and 30,532 in the “Project Description”

section of the same document. Are the project boundaries accurate? What is the true extent of this project including if any future expansion plans? How can an accurate EIR be conducted given the up to 43% area discrepancies?

Another disturbing fact mentioned by the developer, that should not have a bearing on the approval of this project, is that the developer has already entered into a long term lease contract with the land owner, Shasta Cascade Timberlands LLC, **prior to approval** of this project. Local citizens of Shasta County, especially those located near the project area, should not have to endure the impacts of this project just because of the developer's premature business deals. Also, the fact that the FWP would be near a preexisting windfarm project (Hatchet Ridge Project) should not be used to justify approval of the FWP. A lot has changed since the EIR/approval of the Hatchet Ridge Project and many would argue that it should not have been approved even then. The increased realization of the nature of the extreme fire hazard for this area, as demonstrated by the many massively devastating fires throughout this region in the last several years, should cause the reduction of the fire hazard and the protection of life and property in this region, to be the primary guiding principles regarding the approval or disapproval of the FWP.

Also, the description of the project is somewhat misleading with regard to the total generating capacity. The approximately 347 MW and the corresponding hundreds of thousands of homes that would be powered is not accurate. The 347 MW would only occur at peak operating performance (i.e. all wind turbines turning at maximum allowable rotational rate). This condition would not occur very often, if ever. Most wind farms operate at 20-25% of peak capacity, 40% is likely the maximum achievable. Also, because of the intermittent nature of wind power the energy produced could never be solely relied upon without backup generation, usually provided by fossil fuel generators.

ISSUES AND IMPACTS: The following Issues and Impacts are included and listed in accordance with the EIS for easier application of relevancy of each comment and proposed mitigation.

I. AETHETICS:

- a. *a) Have a substantial adverse effect on a scenic vista?*

Comments: Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that "the change in visual character is not anticipated to be significant." This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual

analysis should be done to one or more wind turbines, implying that only a small number, maybe as small as one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report, referenced in the EIS, should include analysis of views from all nearby homes with modified photographs depicting all of the proposed IWTs installed for both daytime and nighttime. The views should be also be collected from other surrounding areas including, Bella Vista and parts of Redding that can see the eastern ridgeline where the IWTs would be installed. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5 and these will be closer and almost half again as tall. The analysis should also include the various private homes of local residences in the area as was discussed at the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away. The permanently cleared areas or minimally revegetated areas, including those for the underground and above ground transmission lines should also be considered when conducting the visual analysis. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for miles. Some local residence complain of being able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and **should be used** as a factor to establish significance of the visual impacts. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project." (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefore cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been

constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

- i. **Mitigation:** A “**No Project**” alternative would mitigate these impacts and many others. Even with the “**No Project**” alternative, the objective to produce non-fossil fuel based electrical energy, may be accomplished by increasing hydroelectric generating capacity here in Shasta County. The FWP contribution to clean energy is already less significant than it would appear because it requires that the existing clean hydroelectric generation nearby to be idled back while the IWTs are producing power so, it’s a zero sum gain for clean energy simply based on total energy generated in this area. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired, cleanly, without the visual and other environmental impacts the Fountain Wind Project will have.

Another possible mitigation scheme that would still allow for the generation of electrical power from wind energy, would be an “**Alternate-Site**” alternative. Shasta County is not required to limit its examination of alternate sites to those within Shasta County alone. While this was suggested in a recent court ruling it was not a requirement imposed by law or regulatory statute. It is not incumbent upon Shasta County citizens or government to be a producer of Wind energy. There are other locations within the state that are much more advantageous to the state’s citizens. In the “**Alternate-Site**” alternative underutilized wind farms located in various parts of the country would be revamped. Many wind farms have wind turbines that have fallen into disrepair and are no longer functioning but are frequently still standing such as those in Tehachapi, Altamont Pass, San Geronio Pass near Palm Springs, and elsewhere. Portions of existing windfarms have been abandoned or are poorly maintained, often once the government subsidies run out, which is typically 10-15 years. It has taken decades to clean up derelict wind turbines in San Geronio Pass with thousands being removed and still hundreds remaining. Reuse existing sites in those or similar areas. The area of San Geronio Pass; has abandoned sites, is one of the windiest places in California, has the infrastructure already in place, has desert shrub like vegetation which already does little for Carbon Gas sequestration

and oxygen production unlike our conifer and deciduous forests do, and has already overcome the environmental hurdles, unlike the proposed Fountain Wind Project. The winds haven't stopped blowing there, the money just ran out. The proposer, Avangrid Renewables, has various wind farms such as – Dillon, Tule Wind, Phoenix Wind, Manzana Wind, Mountain View III, and Shiloh, all of which are in non-forested regions of the country. The Developer should be required to document, and provide evidence to Shasta County, whether they have any sites that could be retrofitted, refurbished or further developed within their existing Wind Farms. All of their current sites are in non-forested and less wildfire prone regions.

Before considering any approval of this project, then as has been done in several areas throughout this country and in Europe, the County should require a “guarantee of compensation against property loss” from the builder for any reasons related to the development of the FWP. Property values could be appraised prior to the commencement of the project and then again upon completion. Loss of any unrealized appreciation during the construction phase could also be factored into the total compensation.

- b. *b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Comments: We agree with the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the FWP's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

- c. *c) Substantially degrade the existing visual character or quality of the site and its surroundings?*

Comments: See above comments for Aesthetics (a, b).

- d. *d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Comments: As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines. Shadow flicker from the nearby Hatchet Wind Project can be seen sweeping across parts of Hwy 299 as the sun drops lower in the western sky which can be disturbing/startling while driving if you don’t know where the large moving shadow is coming from.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

II. AGRICULTURE AND FORESTRY RESOURCES:

- a. *(a,b,c,d,e)*

Comments: The temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over

981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

III. **AIR QUALITY:**

- a. *b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? d) Expose sensitive receptors to substantial pollutant concentrations? e) Create objectionable odors affecting a substantial number of people?*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that’s 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated

during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

IV. **BIOLOGICAL RESOURCES:**

- a. *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Comments: Various studies are referred to in the EIS but are not available on the County’s Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. We are located within a couple of miles of several proposed IWTs and have regularly observed Bald Eagles, Ospreys and other birds of prey on or around our property which has a large pond on it, yet we did not see any sightings listed for what is essentially the area just a couple of miles west of the IWTs. Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the

FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour during maximum operating rotations. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.^[1] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them^[2].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporarily reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects^[3].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation)^[4]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water^[4].

As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Some have tried to minimize the effect of IWTs on the environment, including the impacts to wildlife by comparing it to theoretical effects of fossil fuel generation on the environment due to global warming and other possible effects of consuming fossil fuels. This should not be a bases for attempting to minimize the significance of impacts in the EIR due to the FWP. Just because it may not be as bad as other bad alternatives does not make its impacts insignificant. The project impacts should be compared to the “**No Project**” and “**Alternate-Site**” alternative we recommend for the FWP.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

- b. *c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

Comments: The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up

to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

V. CULTURAL RESOURCES:

a. (a,b,c,d)

Comments: As mentioned by several speakers during the public scoping meeting held 24 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

VI. GEOLOGY AND SOILS:

Comments: Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

- i. **Mitigation:** The “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail] would eliminate any environmental impacts to this area.

VII. GREENHOUSE GAS EMISSIONS:

- a. *a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (b) Conflict with an applicable*

plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Comments: Significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is **No Benefit** to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US

automobile in 2012. According to a recent USDA article entitled “Nature’s Benefits: Carbon Sequestration” this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

VIII. HAZARDS AND HAZARDOUS MATERIALS:

- a. *a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Comments: In the initial findings of the EIS for this section it speaks of “Nonhazardous batteries being stored in the substation.” What are nonhazardous batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm

substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

- i. **Mitigation:** There is no reasonable way to mitigate this impact given the high fire risk for this area, other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].
- b. *g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Comments: The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as “Potentially Significant.” The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area alone. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire’s Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

- c. *h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Comments: In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called “Wildfire.” Scoping comments to the above question will be made to that section later in this document.

IX. **HYDROLOGY AND WATER QUALITY:**

- a. *a) Violate (Violate any water quality standards or waste discharge requirements? f) Otherwise substantially degrade water quality? Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? d) Substantially alter the existing drainage pattern of the*

site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Comments: The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 feet wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

X. **LAND USE AND PLANNING:**

- a. b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Comments: The EIS gives a “less than significant” impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and **cannot demonstrate that the project is necessary** to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

XI. MINERAL RESOURCES:

- a. No Comment

XII. NOISE:

- a. *a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies? b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels? c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Comments: IWTs generate infrasound. Infrasound is generally considered low frequency sound below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people’s health and feelings of general wellbeing near IWTs. It may also effect animal behavior and their general wellbeing (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were

situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.^[3]

A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has been shown in animal models to produce an effect similar to sea sickness.^[5]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.^[6] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.^[7] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.^{[8][9]}

In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was “considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine.”^{[10][11][12]}

The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

- i. **Mitigation:** Infrasound is an unavoidable characteristic of IWTs and cannot be mitigated thus the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

XIII. POPULATION AND HOUSING:

- a. No Comment

XIV. PUBLIC SERVICES:

- a. a) *Fire Protection?*

Comments: As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area, even what would normally be considered a quick response time by local firefighting personnel, may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier

section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations, particularly during the construction phase. Any proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is large risk for this area.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XV. RECREATION:

- a. No Comment

XVI. TRANSPORTATION/TRAFFIC:

- a. *a,b,b,d,e)*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that’s 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XVII. TRIBAL CULTURAL RESOURCES:

- a. *a,b)*

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native

American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

XVIII. UTILITIES AND SERVICE SYSTEMS:

- a. No Comment

XIX. MANDATORY FINDINGS OF SIGNIFICANCE:

- a. *b,c) b) Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Comments: *b)* As mentioned in the EIS the cumulative effects of being closing located to the Hatchet Ridge project should be considered for all applicable areas of the EIR such as the cumulative effects on bats, various avian species (especially migratory birds and raptors [including our very limited Bald Eagle population]) and other species of wildlife in the area.

The restriction of aerial firefighting efforts in a rugged and fire prone region will be compounded by the closely located Hatchet Ridge IWTs.

Also, there have been studies indicating that the wind turbulence of IWTs, especially those located along ridge lines, can impact local weather by disrupting normal air flow over ridge tops. This turbulence from spinning wind turbine rotors increases vertical mixing of heat and water vapor that affects the meteorological conditions downwind, including rainfall^[13] so, the miles of ridge top IWTs of the FWP should be analyzed together with those of the nearby Hatchet Wind Project for possible impacts regarding this phenomena on the local environment.

The cumulative effects of increased fire risk due to the additional sources of potential fire and fuels from the additional IWTs and associated transformers and

other equipment of the Hatchet Ridge project should also all be addressed in the EIR.

- i. **Mitigation:** There is no reasonable way to mitigate these impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

- b. *c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Comments: It’s not clear how the EIS could give this particular category a “No Impact” assessment given all of the areas already identified as potentially significant within the EIS itself. The increased fire threat alone has the potential for significant loss of life. Other identified areas should be examined for potential health effects including: infrasound, shadow flicker and wind turbine syndrome. These IWT effects have been a source of thousands of complaints of negative health impacts throughout the world and have led to various regulations in attempts to minimize their impacts. This area should be assessed as “potentially significant” and evaluated considering all of the available scientific evidence for already identified areas of significant impacts.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the “No Project” or “Alternate-Site” alternatives [See Subsection I Aesthetics (a) above for further detail].

DEMBER 2018 AMENDMENTS TO THE 2018 CEQA: The following environmental area discussed are based on the latest amendment to the CEQA document. Two new categories were added that have significant bearing on the FWP.

ENERGY. *Would the project:*

- a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Comments: Yes, this would result in a significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during construction and operation. As indicated in earlier sections of this document the only option is the “No Project or Alternate Site”. The significant impacts to the environment, including wildlife, and forest lands and other impacts can be mitigated by “No Project” or “Alternate-Site” alternatives identified earlier in this document. There are several alternative sites within the state of California, with much less wildfire risks, with infrastructure already in place, from aging or abandoned IWTs, that can be retro fitted or replaced to generate the clean energy proposed by the FWP. Even though previous wind studies indicate this location may generate the

wind power needed for the FWP, it introduces additional wildfire risks that are not acceptable.

In addition, some of the latest reports and Gap Analysis (from the California Public Utility Commission [CPUC]), indicate the way forward regarding: California's evolving energy market, PG&E's recent bankruptcy filing, grid transmission reliability and safety, renewable energy storage limitations, and the paying of surrounding states to take excess power, all of which need to be resolved and incorporated into the EIR before any further consideration of permit approval for the FWP can take place. These Energy related issue are further discussed below:

According to the CPUC 2018 Report, solar continues to represent the largest portion of renewable energy serving the California load. The report also indicated that with the rapid growth in renewables, particular solar generation, it has dramatically changed California's generation profile, and California's grid operators have had to adapt to these changes. With solar generation, the increase in the morning, when the sun rises, and decrease in the evening requires other resources to balance the generation and load on the electrical system and maintain system reliability.^[24] Due to the inability to store enough renewable energy for later use, and the need to balance the electrical grid, California has **paid** Arizona Public Service (APS) Co, to take our excess solar power. "According to APS President of Energy Resource Management, Tammy McLeod, the Arizona utility will save rate payers up to \$18 million with the new system." "The California Independent System Operator (CISO) had too much power coming into the grid from renewable sources and not enough demand to use it up. California was looking for utilities to use the surplus power. Sweetening the pot, the CISO was paying APS to take the power for higher demand Phoenix."^[14] Adding another intermittent energy source such as the FWP would exacerbate the problem at this time.

California is part of the four-utility Western Regional Energy Imbalance Market, as such they look for ways to import/export power in the system in an attempt to balance the electrical grid, even **paying other states to take excess power off the grid.** Because of the current renewable storage limitations, and the transmissions system reliability and safety constraints, California's ability to both export excess generation and import generation to meet load demands is limited. Clearly the additional power generated by the FWP will just add to the problems currently being addressed by the CPUC. To approve the FWP will only add to this problem and does not address the wasteful energy, safety, and financial inefficiencies, which do not benefit the California consumers.

Based on the December 2018 California Energy Commission Renewable Energy Report, California's evolving electricity market has been shifting largely due to the increase in self-generation and Community Choice Aggregators (CCAs). CCA's are local public agencies,

typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for and Evolving Energy Market* reports that by the end of 2018, as much as 25% of Investor Owned Utilities (IOUs) retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation.^[15]

Transmission Agency of Northern California (TANC), in earlier communications with Shasta County regarding the nearby Hatchet Ridge Project and associated transmission system reliability indicated that, "previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest."^[16] TANC also indicated "In the absence of specific studies qualifying the impacts or associated mitigation costs of the Project, on the existing 500-kV grid, please be aware that this and similar projects will likely increase the cost of rebuilding or re-conducting existing 230-kV line to maintain appropriate levels and related performance objectives for potentially affected public facilities."^[16] Due to the fact that PG&E has filed bankruptcy it seems unlikely that they will take any action for re-conducting or upgrading transmission lines in the FWP area to help stabilize the transmission grid for safety or reliability. With the already identified concerns of reliability and load uncertainty, not to mention the increased costs, and lack of specific studies or analysis, the FWP would only exacerbated the problem by adding additional transmission lines and intermittent power.

According to the CPUCs 2018 report, solar power has dropped in price and installations are on the rise. Additionally, with the mandate that all new homes, beginning in 2020, must have solar power, and the fact that many large businesses and military bases are installing renewable energy systems, the electric grid system safety and reliability is being challenged. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper^[18]. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy. With all the work in progress by the CPUC it cannot be determined that the FWP, at this requested location, shows any benefit to California's green energy efforts. i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and Behind The Meter (BTM) technology penetration to meet statewide goals for reliability, decarbonization and affordability?

The CPUC released a report in May 2018 warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern is that CCAs have fractured regulatory decision-making regarding reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC. ^[17]

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and BTM technologies, the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Market* (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core principles are met. The *Choice Action Plan and Gap Analysis* indicates the CPUC "lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that if not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement." ^[18] This is just further evidence that now is not the time to move forward with the FWP given all of the system challenges and electric grid issues.

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the "No Project" or "Alternate-Site" alternatives [See Subsection I Aesthetics (a) above for further detail] at this time.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, the conflict is outlined in the information listed under question (a) for Energy above. Conflicts arise, and needs to be addressed adequately, as identified in the final Choice Action Plan and Gap Analysis Report from the Choice Project, as to how the State will address Distribution Grid Services and Resource Adequacy issues. Some of the current energy inefficiencies have already been mentioned, and I am sure there are many more, that can no longer be ignored. The cost of moving forward, despite some of the issues, especially the transmission grid safety and reliability areas, have cost California billions of dollars and hundreds of lives, none of which can be replaced by accelerating clean energy goals without **addressing the safety and reliability concerns first**.

Additionally, according to the 2018 CPUC Report, California is ahead of its current renewable energy goal targets. The report shows the goal of 33% of electrical demand

supplied by renewable energy for 2020, we are at 34% in 2018. Having already exceeded the current goals, California officials need to pause to address the safety, and threat of life issues now. These issues need to be resolved before any further development takes places. Allowing the FWP to introduce an additional 16 miles of transmission lines proposed in the project and another intermittent power source, will only exacerbate the safety risk and degradation of service issues currently being dealt with and studied by the CPUC.

Additionally, research indicates that wind energy is less efficient than previous thought so the EIR should compare other renewable energy source, to this project, as a means to generate the same clean power (i.e. solar farms [placed in valley location], or additional or increased capacity hydro-electric generation). Because of the many significant environmental impacts of the FWP and the inefficiencies as compared to other renewable sources, the FWP should not be approved and other renewable solar or hydroelectric projects should be considered instead. The study below discusses some of the energy density issues of IWT generated renewable energy

The new study, published in *Environmental Research Letters*, shows yet again that wind energy's Achilles heel is its paltry power density. "We found that the average power density—meaning the rate of energy generation divided by the encompassing area of the wind plant—was up to 100 times lower than estimates by some leading energy experts," said lead author Lee Miller, a postdoctoral fellow who coauthored the report with Harvard physics professor David Keith. The problem is that most estimates of wind energy's potential ignore "wind shadow," an effect that occurs when turbines are placed too closely together: the upwind turbines rob wind speed from others placed downwind.

The study looks at 2016 energy-production data from 1,150 solar projects and 411 onshore wind projects. The combined capacity of the wind projects totaled 43,000 megawatts, or roughly half of all U.S. wind capacity that year. Miller and Keith concluded that **solar panels produce about 10 times more energy per unit of land as wind turbines**—a significant finding—but their work demands attention for two other reasons: first, **it uses real-world data, not models**, to reach its conclusions, and second, **it shows that wind energy's power density is far lower than the Department of Energy, the IPCC, and numerous academics have claimed.**

Further: "While improved wind turbine design and siting have increased capacity factors (and greatly reduced costs), they have not altered power densities." In other words, though Big Wind has increased the size and efficiency of turbines—the latest models stand more than 700 feet tall—it hasn't been able to wring more energy out of the wind. Due to the wind-shadow effect, those taller turbines must be placed farther and farther apart, which means that the giant turbines cover more land. As turbines get taller and sprawl across the landscape, more people see them.

In California, which just boosted its renewable-electricity mandate to 60 percent by 2030, wind turbines are so unpopular that the industry has effectively given up trying to site new projects there.

Big Wind has attempted to intimidate some of its rural opponents by filing lawsuits against them. Last year, NextEra sued the town of Hinton in federal and state court after the town passed an ordinance restricting wind-energy development. The wind-energy giant also sued local governments in Michigan, Indiana, and Missouri, all of which had passed measures restricting wind-energy development.

Why the hardball tactics? Simple: rural residents stand between Big Wind and tens of billions of dollars in subsidies available through the Production Tax Credit. In September, Lisa Linowes, cofounder and executive director of the Industrial Wind Action Group, a New Hampshire-based nonprofit that tracks the wind industry, published an article on MasterResource.org. “The US Treasury estimates the PTC will cost taxpayers \$40.12 billion in the period from 2018 to 2027,” Linowes wrote, “making it, by far, the most expensive energy subsidy under current tax law.” The punchline here is obvious: wind energy has been sold as a great source of “clean” energy. The reality is that wind energy’s expansion has been driven by federal subsidies and state-level mandates. Wind energy, cannot, and will not, meet a significant portion of our future energy needs because it requires too much land.^[19]

Shasta country already has clean energy projects that support California’s goal for clean and renewable energy generation such as the Hatchet Ridge Wind Project and various Hydroelectric Facilities. The Hatchet Ridge Wind Project has 44 turbines generating up to 102 MW of electricity located near Burney. A nearby Hydroelectric Facilities operated by PG&E spans 38 miles of the Pit River, Pit, 3, 4, and 5 near Burney and Big Bend. It has four dams, four reservoirs, three powerhouses, associated tunnels, surge chambers, and penstocks. The nine generating units from the powerhouses have a combined generation capacity of 325 MW.

One of the biggest concerns that must be addressed is the bankruptcy of PG&E. PG&E filed bankruptcy as the “only viable option” to escape potentially \$30 billion worth of liabilities for sparking major wildfires in 2017 and 2018. State investigators found the utility sparked a dozen major fires in 2017 through poorly maintained powerlines and equipment. Pacific Gas and Electric (PG&E) may shed more than \$40 billion worth of power purchase agreements after the California utility was driven into bankruptcy by liabilities for sparking deadly wildfires, The Wall Street Journal reports.^[20]

PG&E wants the U.S. Bankruptcy Court in San Francisco to rule whether the company must honor \$42 billion worth of contracts with about 350 different energy suppliers, mostly solar

and wind plants. The goals set by government officials were optimistic before PG&E filed for bankruptcy. **California's grid operator has paid surrounding states on several occasions to take excess power off California's grid caused by overproducing solar and wind farms.**^[20] As noted in a recent Bloomberg news article the wildfire crisis and the resulting PG&E bankruptcy, could impact the state's ability to meet its clean energy and climate goals.^[21]

Since the installation of the Hatchet Ridge IWTs the environmental safety concerns have escalated tremendously, as witnessed by the recent destructive and devastating wildfires, likely due faulty grid transmission lines (having been poorly maintained), and unpredictable wind patterns (Firenado). With the documented increased safety concerns, and the risk of life threatening wildfires, we do not believe the Hatchet Wind Project should be used as a precedent for determining the approval of the FWP. Many of the same unresolved environmental, safety, economic, and electrical transmission grid impacts from the Hatchet Ridge Project, still exist, some having actually increased in their impact (such as wildfires). The proposed FWP would create cumulative impacts that need to be addressed and resolved, via independent studies, in conjunction with the documented transmission grid safety, reliability, and degradation issues as a whole for the state.

Even though it has been documented that wind generation at the proposed project site is sufficient for a wind generation facility, Shasta County should not approve the permit based on the reduced community safety issues alone and the further ongoing electric generation and transmission issues within the State.

- i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the ongoing electric grid issues, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

WILDFIRE: – *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

- a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastating wildfires that have plagued the area. Per the documentation available on the FWP county web site, only local officials were notified to address any emergency evacuation concerns, others agencies at the State and/or Federal level should also be consulted regarding emergency response considerations. Considering the

recent Northern California fire activity this item should be listed as ‘Potentially Significant Impact’ with the County providing emergency evacuation plan updates. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, the community emergency evacuation plan needs to be, evaluated, addressed and updated **before** the project developer can indicate if this area has been addressed and how effected any plans would be. The various communities affected by the FWP have very few exit routes near the project area. This limitation has been shown, in the recent Carr, Delta, and Camp fires, to have life threatening and devastating consequences.

The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as “Potentially Significant.” The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire’s Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence’s only

way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

- ii. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the “**No Project**” or “**Alternate-Site**” alternatives [See Subsection I Aesthetics (a) above for further detail].

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The FWP terrain is steep, as much as 25% grade, and inhibits firefighting efforts. Due to the steep terrain firefighting air craft would need to be used, which would be limited in their ability to respond because of the height and wind turbulence of the IWTs. One of the reason the developer choose this site is the prevailing winds which substantially increase the risk of fires starting from downed transmission lines or IWTs and also increases the probability of a fire’s rapid and uncontrollable spread, as was experienced during the local Fountain Fire of ’92 and the very tragic Camp and Carr fires where nearly 100 persons died just last year. In many of the recent fires that plagued Northern California the wind has proven to be a substantial factor in the spread of the wildfires at an unprecedented rate. The fact that IWTs do catch fire and that it is an ongoing concern for the Wind Industry, is well documented. It is thought that the number of fires which have occurred is grossly under reported for various reasons by the Wind Industry. ^[22]

The IWT nacelles typically contain a large amount of flammable materials including: lubricants for the gears, fiberglass covering of the nacelle, resins, plastics etc. Once the IWTs catch fire, typically within the nacelle, there is little that can be done by fire responders other than to let them burn and try to mitigate the spread of fires on the ground as the IWT spews fiery debris over a large area. There is also the danger to fire fighters of being struck from some of this fiery debris, including the large IWT blades which often fly apart during IWT fires. Several communities in this country and throughout the world have restricted any new wind farm developments in timber and forested areas due to increased fire risk caused by IWT fires, transmission lines, and often because of the remote locations and turbine height, limits resources of firefighting efforts. Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas after tens of thousands of acres of forested land were destroyed. ^[23]

On-site fuel to maintain FWP operations and maintenance, including the transformer oils and other flammable materials impose an additional risk factor to an area that has already been identified as “Very High Risk” as indicated by the Cal Fire maps. Any increased risk even if only slightly should not be allowed and is akin to smoking while pumping gas, it should not be allowed to occur in this area.

According to the CPUC 2018 no issue received more attention than the CPUC’s efforts to deal with the increased threat of wildfires throughout the state. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making fire safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 were ravenous and lightning fast as seldom seen in California before. The deadly wildfires drive home the reality that the state is facing challenges of keeping people, property and the environment safe. California’s fire season is longer and more severe and those challenges are expected to get even worse with prolonged drought, increased tree mortality and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the CPUC which will lead to refined policies and new state laws. As part of these efforts to implement wildfire safety the CPUC will examine PG&E’s current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates.

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completely surrounded by areas of elevated fire risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Many residents in the nearby project development area are already being denied homeowner insurance, or renewals, because we are now considered to be in a ‘Very High Risk’ area as identified by Cal Fire Hazard Severity maps. The only homeowner insurance options we have been able to obtain are the California Fair Plan, which is considered to be the last resort for homeowner’s insurance. The FWP would further exacerbates an already highly volatile environment with high winds, forested mountain terrains subject to lightning strikes (compounded by the turbines themselves) and steep terrain making firefighting efforts more difficult (some areas only available by air support alone) as previously stated. Given the already extremely high fire rating for this area and the additional risk imposed by the FWP, the turbine manufacture(s), developer, project land lease owner, Shasta County, and the State of California could be held liable for furthering any developments of this type.

A report generated by Lawrence Berkeley National Laboratory, Greenware Technologies and Envision Geo for the California's Fourth Climate Change Assessment, titled ASSESSING THE IMPACT OF WILDFIRES ON THE CALIFORNIA ELECTRICITY GRID show that for our region the threat of wildfires is doubled by the years 2040-2049 the same time the IWTs are reaching the end of their serviceable life and more prone to failure and fire which would just compound an already volatile situation.

Because of these newly initiated and ongoing efforts by our state regulatory agencies and governance regarding power generation and distribution no further action should be taken to approve the FWP until clearer guidance is provided by the CPUC for regions such as ours, especially since there is no "Demonstrable Need" for the FWP at this time. .

- i. **Mitigation:** There is no reasonable way to mitigate this impact other than the "No Project" or "Alternate-Site" alternatives [See Subsection I Aesthetics (a) above for further detail].
- c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Comments: Addressed above and in previous comments.

- d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Comments: Needs to be examined in EIR.

REFERENCES:

- [1] Morin, Monte. 600,000 bats killed at wind energy facilities in 2012, study says, LA Times, November 8, 2013.
- [2] Baerwald, Erin F; D'Amours, Genevieve H; Klug, Brandon J; Barclay, Robert MR (2008-08-26). "Barotrauma is a significant cause of bat fatalities at wind turbines". Current Biology. **18** (16): R695–R696. Bibcode:1996CBio....6.1213A. doi:10.1016/j.cub.2008.06.029. OCLC 252616082. PMID 18727900

- [3] Mikołajczak, J.; Borowski, S.; Marć-Pieńkowska, J.; Odrowąż-Sypniewska, G.; Bernacki, Z.; Siódmiak, J.; Szterk, P. (2013). "Preliminary studies on the reaction of growing geese (*Anser anser* f. *Domestica*) to the proximity of wind turbines". *Polish Journal of Veterinary Sciences*. **16** (4): 679–86. doi:[10.2478/pjvs-2013-0096](https://doi.org/10.2478/pjvs-2013-0096). PMID [24597302](https://pubmed.ncbi.nlm.nih.gov/24597302/)
- [4] Wanless, Jenny. Editorial, Nature & Society, Journal of the Nature and Society Forum, October-November, 2011.
- [5] King, Simon (12 June 2015). "Wind farm effect on balance 'akin to seasickness': scientist". *News Corp Australia*.
- [6] Rogers, Anthony; Manwell, James (2006). "Wright". Sally: 9. CiteSeerX [10.1.1.362.4894](https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.362.4894).
- [7] Salt, Alec N.; Kaltenbach, James A. (19 July 2011). "Infrasound From Wind Turbines Could Affect Humans". *Bulletin of Science, Technology & Society*. **31** (4): 296–302. doi:[10.1177/0270467611412555](https://doi.org/10.1177/0270467611412555)
- [8] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, SayedAbolfazl; Yousefzadeh, Arsalan (June 2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. Bibcode:2015FNL....1450020A. doi:[10.1142/S0219477515500200](https://doi.org/10.1142/S0219477515500200)
- [9] Bolin, Karl; Bluhm, Gösta; Eriksson, Gabriella; Nilsson, Mats E (1 July 2011). "Infrasound and low frequency noise from wind turbines: exposure and health effects". *Environmental Research Letters*. **6** (3): 035103. Bibcode:2011ERL.....6c5103B. doi:[10.1088/1748-9326/6/3/035103](https://doi.org/10.1088/1748-9326/6/3/035103)
- [10] "Wind-farm workers suffer poor sleep, international studies find". *The Australian*.
- [11] Abbasi, Milad; Monnazzam, Mohammad Reza; Zakerian, Sayedabbolfazl; Yousefzadeh, Arsalan (2015). "Effect of Wind Turbine Noise on Workers' Sleep Disorder: A Case Study of Manjil Wind Farm in Northern Iran". *Fluctuation and Noise Letters*. **14** (2): 1550020. doi:[10.1142/S0219477515500200](https://doi.org/10.1142/S0219477515500200)
- [12] Inagaki, T.; Li, Y.; Nishi, Y. (10 April 2014). "Analysis of aerodynamic sound noise generated by a large-scaled wind turbine and its physiological evaluation". *International*

Journal of Environmental Science and Technology. **12** (6): 1933–1944. doi:10.1007/s13762-014-0581-4

[13] Davidoff, Daniel. “Wind Power Found To Affect Local Climate.” *Scientific American*, The Conversation, Sustainability. The Conversation, February 14, 2014.

[14] Eric Jay Toll, “California pays APS to Take Surplus Solar Power” *Phoenix Business Journal*, October 5, 2016,
<https://www.bizjournals.com/phoenix/news/2016/10/05/california-pays-aps-to-take-surplus-solar-power.html>

[15] https://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf

[16] James Beck, Transmission Agency of Northern California, fax dated January 28th, 2008, comments and responses regarding the Hatchet Ridge Wind project.

[17] Alexander Stevens, “Deregulation Shouldn’t be Blamed for California’s Grid Problems” *Institute for Energy Blog*, June 4, 2018,
<https://www.instituteforenergyresearch.org/the-grid/deregulation-shouldnt-blamed-californias-grid-problems/>

[18] Diane I. Fellman, Choice Project Team Lead, California Customer Choice Project, Choice Action Plan and Gap Analysis, December 2018,
[http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy - Electricity and Natural Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf)

[19] Robert Bryce, “Why Wind Power Isn’t the Answer”, *City Journal.org* Infrastructure and Energy, October 30, 2018, <https://www.city-journal.org/wind-power-is-not-the-answer>

[20] Tim Pearce, The Daily Caller News Foundation, January 30, 2019, “Bankrupt California Utility Shedding more than \$40 Billion Worth of Green Energy Contracts”
<https://dailycaller.com/2019/01/30/bankrupt-california-pge-green-energy/>

[21] Bloomberg News Editors, Brian Eckhouse, Bloomberg, “PG&E’s Wildfire Crisis Could Impact California’s Ambitions Clean Energy Target” November 19, 2018,
<https://www.renewableenergyworld.com/articles/2018/11/pges-wildfire-crisis-could-californias-ambitions-clean-energy-targets.html>

[22] SOLOMON UADIALE¹, ÉVI URBÁN¹, RICKY CARVEL¹, DAVID LANGE², and GUILLERMO REIN³. “Overview of Problems and Solutions in Fire Protection Engineering of Wind Turbines.” FIRE SAFETY SCIENCE-PROCEEDINGS OF THE ELEVENTH INTERNATIONAL SYMPOSIUM pp. 983-995 COPYRIGHT © 2014 INTERNATIONAL ASSOCIATION FOR FIRE SAFETY SCIENCE/ DOI: 10.3801/IAFSS.FSS.11-983

[23] Clyde MacDonald, “Forest Fires and Wind Turbines: The Danger No One is Talking About”, June 29, 2011, Bangor News, <https://bangordailynews.com/2011/06/29/opinion/forest-fires-and-wind-turbines-the-danger-no-one-is-talking-about/>

[24] California Public Utilities Commission Report 2018.

Sincerely,
Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA 96065

Agnes Gonzalez
Tribal Chairman

Mickey Gemmill Jr.
Vice-Chairman

Tracy Eleck
Tribal Secretary



Jolee George
Recording Secretary

Brandy McDaniels
Tribal Treasurer

Lawrence Cantrell
Sargent At Arms

ELEVEN AUTONOMOUS BANDS

36970 Park Ave. Burney CA. 96013

Phone (530) 335-5421

Fax: (530) 335-5069

RESOLUTION NO: 02-02-19

DATE: February 14, 2019

SUBJECT: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

WHEREAS: The Pit River Tribe is a federally recognized Tribe composed of eleven (11) autonomous bands: Ajumawi, Atsugewi, Atwamsini, Illmawi, Astariwi, Hammawi, Hewisedawi, Itsatawi, Aporige, Kosealekte and Madesi, that since time immemorial have resided in the area known as the 100 mile square, located in parts of Shasta, Siskiyou, Modoc, and Lassen Counties in the State of California, prior to the issuance of Papal Bull Inter Caetera (1493) and the Treaty of Guadalupe Hidalgo (1848), AND;

WHEREAS: The Pit River Tribe is governed by the Pit River Tribal Council, the body duly Constituted and elected under the Constitution of the Pit River Tribe adopted August 15, 1987 and approved by the Assistant Secretary of the Interior for Indian Affairs on December 3, 1987, AND;

WHEREAS: The Pit River Tribal Council is empowered by Article VII of the Constitution to enact all ordinances and resolutions which shall be necessary and proper for carrying into effect the Council's powers and responsibilities, contract with federal, state, and Tribal government, private enterprises, individuals and organizations, AND;

WHEREAS: The Pit River Tribe has the authority to charter and regulate independent organizations, subordinate organizations, committee and boards of officials of the Tribe and delegate powers, AND;

WHEREAS: The Pit River Tribe has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the people of the Pit River Tribe, AND;

WHEREAS: Natural and Cultural resources as well as the Pit River people are indistinguishable within the harmony of the Pit River world, AND;

WHEREAS: The proposed Fountain Wind project lays within the Pit River Tribe ancestral band areas of the Madesi, Itsatawi and Atsugewi bands, which hold deep ties to this great place of refuge, ceremony, healing, prayer, fasting, hunting, gathering, and other sacred traditional uses, and as doing so The PIT RIVER TRIBE and its NATION as a WHOLE holds the proposed project area, ancestral area of great significance, culturally and spiritually, AND;

WHEREAS: This proposed project infringes on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance, AND;

WHEREAS: The sacred responsibility to maintain the health and integrity of the Natural World for future generations is also a central element of Pit River Peoples' spirituality, traditional ceremonial practices, religious expressions and identity, which is tied to the oral history and topography of the land, AND;

ATWAMSINI

ASTARIWI

ATSUGEWI

APORIGE

AJUMAWI

HEWISEDAWI

ILLMAWI

ITSATAWI

KOSEALEKTE

HAMMAWI

MADESI

Resolution No: 02-02-19

Date: February 14, 2019

Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

ATWAMSINI

WHEREAS: The proposed project area is an integral part of the biological and watershed resources of the Pit River Tribal community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of the Pit River Tribal community, AND;

HEWISEDAMI

ASTARIWI

WHEREAS: Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors, AND;

ILIMAWI

ATSUGEWI

WHEREAS: The PIT RIVER TRIBE invokes the United States Government's Trust Responsibility to the Indian Peoples of this land. Government-to-government consultation with Federal, State, and County governments is established and assured by laws, regulations, policies, and executive orders such as; the National Environmental Policy Act, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, the National Register Bulletin 38 on Traditional Cultural Properties, Executive Order 13007 on Indian Sacred Sites, Executive Order 13175, Executive Order 12898 on Environmental Justice, California Environmental Quality Act, Senate Bill 18, etc. prior to the implementation of activities within Pit River Ancestral lands and the repeated promises of good will by the United States Government, AND;

ITSATAMI

APORIGE

WHEREAS: The PIT RIVER TRIBE unanimously adopted a resolution on March 29th, 2012 affirming the United Nations Declaration on the Rights of Indigenous Peoples adopted by the UN General Assembly in 2007 and also endorsed by the United States on December 16th, 2010, AND;

KOSEALEKTE

AJUMAWI

WHEREAS: The United Nations Declaration on the Rights of Indigenous Peoples is the minimum standard for the dignity, survival and well-being of Indigenous Peoples and recognizes the rights of Indigenous Peoples pertaining to cultural practices, (Article 11), access to and protection of sacred sites (Article 12), spiritual relationship with traditional lands and waters (Article 25), environmental protection (Article 29) and Free Prior and Informed Consent regarding development projects (Article 32) among a number of other relevant provisions, AND;

HAMMAWI

WHEREAS: Internationally, the PIT RIVER TRIBE further invokes the legally binding international Covenants and Conventions, to which the United States is obligated including the International Covenant on Civil and Political Rights, and the International Convention on the Elimination of All Forms of Racial Discrimination, which also call upon State Parties to respect the cultural and religious rights as well as other relevant rights of Indigenous Peoples, AND;

NOW THEREFORE BE IT RESOLVED that the PIT RIVER TRIBE invoke these statutes, Declarations, Resolutions, decrees and Conventions and affirms its **Opposition** to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Therefore, the Pit River Tribe must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

BE IT FURTHER RESOLVED that the PIT RIVER TRIBE **Rejects** the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No Use Permit, No commercial scale energy project on the proposed site.

Resolution No: 02-02-19

Date: February 14, 2019

Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

C-E-R-T-I-F-I-C-A-T-I-O-N

I, the under-signed Tribal Chairperson, Agnes Gonzalez of the Pit River Tribe, do hereby certify the Pit River Tribal Council is composed of eleven autonomous bands of which 11 were present, constituting a quorum at a regular scheduled, noticed, convened and held meeting this 14 day of February 2019, and the resolution was adopted by a vote of 6 yes 0 no 0 abstaining, and that said resolution has not been rescinded in any way.

ATWAMSINI

Agnes Gonzalez
Tribal Chairperson, Agnes Gonzalez

2/14/19
Date

HEWISEDAMI

Tracy Eleck
Tribal Secretary, Tracy Eleck

2/14/19
Date

ASTARIWI

Tribal Council Member Signatures:

Consuelo M. Davis

02/14/2019
Date

ILIMAWI

C. Smith

02/14/2019
Date

ATSUGEWI

Bruce Ward

2-14-2019
Date

ITSATAMI

[Signature]

2-14-2019
Date

APORIGE

[Signature]

2-14-19
Date

KOSEALEKTE

Emmy Quinn

2.14.19
Date

AJUMAWI

Date

HAMMAWI

Date

Date

Date

Date

Date

MADESI

Comments regarding Fountain Wind Project (Use Permit 16-007)

DATE: February 14, 2019

**TO: Shasta County, Department of Resource Management Planning Division
representatives and Shasta County Board of Supervisors**

**SUBJECT: Madesi Band of the Pit River Nation Comments and Opposition to the
Fountain Wind Project (Use Permit 16-007)**

The Pit River Tribe is a federally recognized Tribe composed of eleven autonomous bands located in Northeastern California since time immemorial, in which the Madesi Band is included. It is clear that the Madesi Band's Ancestral area lies within this proposed Fountain Wind Project (Use Permit 16-007).

The Madesi Band as part of the Pit River Nation has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the original peoples of the Pit River. This duty includes maintaining the health and integrity of the Natural World for future generations. These natural and cultural resources which are indistinguishable from the Pit River Peoples are a central element of our spirituality, traditional ceremonial practices, religious expressions, history, and identity. Given these facts this project would significantly disrupt the harmony between the Madesi Band and the Pit River world.

Therefore the Madesi Band is in opposition of the Fountain Wind Project due to numerous negative impacts and environmental concerns that this massive project of nearly 40,000 acres presents to our Citizens, known Cultural Resources, watershed, plants, animals, and overall ecosystem which include but is not limited to:

- **Indigenous History** - The topography of the Land in question is central to our identity, oral traditions and history, changing it in such a drastic fashion would be unthinkable. And be interpreted as an attempt to erase our people from history.
- **Habitat** - The proposed Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and air quality of this area.
- **Freedom of Religion** - This project would have irreversible negative impacts on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance.
- **Continued Use/We are still here/We still exist** - The project area is highly significant to the cultural and religious ways of the Tribe as a whole. The PIT RIVER TRIBE and its NATION has deep ties to this place of refuge, ceremony, healing, prayer, fasting and other sacred traditional uses.
- **Misrepresentation** - The Fountain Wind Project developers have not acted in good faith, representing themselves as an American company located in Oregon, but are actually owned by an organization out of Spain. These out of country interests have demonstrated a lack of concern for our local culture, environments, and overall ecosystem as evidenced by the current Hatchet Wind project in this area.

MADESI

Comments regarding Fountain Wind Project (Use Permit 16-007)

- **Exploitation** - This community and general area is already being overstretched and exploited with power generating activities such as the existing Hatchet Wind Farm, power lines, dams, PG&E hydroelectric activities that are contributing to fish species extinction, and other harmful conditions such as cyanobacteria/toxic algae which put all communities members at risk. Our rural community is carrying too much of the burden for the benefit of others and to the detriment of our health and safety.
- **Inefficient** - There is a significant loss of power when energy is transmitted over long distances proving this project to be inefficient and wasteful, and therefore lacking integrity.
- **Oppression** - These types of projects/companies, comparable to the nearby Hatchet Wind farm have demonstrated a pattern of behavior of targeting socio-economically suppressed areas, and exploiting them for personal gain. Further suppressing these communities by lowering property values in and around the surrounding project areas and from extremely long distances in from which they can be seen day and night.
- **Local Economy** - Our community relies heavily on recreation and tourism in our economy which will be negatively impacted by these monstrosities.
- **Aesthetics/Viewshed** - These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.
- **Red Flashing Lights** - The existing wind farm uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as “Nite Guard Solar-Powered Night Animal Predator Light”. This company claims that scientific studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched, this is threatening to animals, further studies by this company concluded that this product works on all night animals and they react the same way to the red flash. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, fox, bobcats, muskrats, bears, cougar, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal, natural balance of the ecosystem.
- **Watershed** - The proposed project area is an integral part of the biological and watershed resources of this community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of community members.
- **Lassen National Park** - Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors.
- **Hunting and Gathering** - This project will disrupt long standing traditional hunting and gathering practices.

MADESI

Comments regarding Fountain Wind Project (Use Permit 16-007)

- **Illegal “Take”** - The current Hatchet Windmill project kills culturally and environmentally critical birds and other avian species. The USFW does not currently monitor this illegal activity, and is currently unaware of any applications from the existing wind farm for incidental take permits, which is required to continue murdering protected species such as Golden and Bald Eagles. Current protection processes, monitoring, and enforcement with these types of projects are lacking.
- **Traffic/Infrastructure** - Highway 299 is not currently equip to handle additional traffic, and is prone to commercial accidents on a regular basis putting the community at risk of increased travel related danger.
- **Scenic Area of National importance** - Highway 299 is a historic byway and the gateway to what President Theodore Roosevelt named “The eighth wonder of the world”, Burney Falls.
- **Emergency communications** - This project could cause emergency communication interference, which can include television and cell reception.
- **Abandonment**- Other projects of this type in California have been left abandoned leaving a land scar of nonoperational outdated windmills. The equivalent to a junk yard.
- **Ignores real issue** - The Fountain wind project does not address the real energy generation issue, which is the need for efficient delivery and storage of excess power already generated in California. This proposed project only serves to mask and compound this serious infrastructure deficiency.

Therefore the Madesi Band upholds its opposition to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Thus, the Madesi Band must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

Further the Madesi Band rejects the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a “No Project Alternative” which includes No use permit, No commercial scale energy project on the proposed site.

Respectfully,
Brandy McDaniels, Pit River Nation Madesi Band Cultural Representative

MADESI

Public Comment Card

Fountain Wind Project

Comment Period: January 15, 2019- February 14, 2019

Commenter

Name/Affiliation:

Raquel Walters Indig

Comment:

You people are going to do what you please, I am commenting (a day late and dollar for short!) in the "hope", that when you move on after this project, you would read the comments of the indigenous people where you move onto next.

My grandpa told me, many, many moons ago, about this project. I was a child about my grand-children's age. I thought he was crazy! It's like being raped and pillaged all over again!!! We do not go into your churches and tear and dig them up. Because we do not have a building to "worship in" does not mean we do not "pray and worship" as you people do. Probably why we "laughed at" you people "for building homesteads." We knew you can not control "mother nature." We moved our homes - Summer, Spring, Fall and winter, accordingly. You have already did forewarn to. It'suge, don't discriminate against Indesi!

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address:

4227 Wilcox Rd Hat Creek CA 96140

Email Address:

babeelvin@yahoo.com

Opt-in to mailing list (must provide valid address):

☐ Yes, mail Project updates☒ No, do not send mail

Opt-in to email list (must provide valid email address):

☒ Yes, email Project updates☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: <http://comment-tracker.esassoc.com/tracker/fountainwindeir/> by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

RECEIVED
SHASTA COUNTY

FEB 7 2019

DEPT OF RESOURCE MGMT
BUILDING DIVISION



Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Public Comment Card

Fountain Wind Project
 Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Donna Cawker Pit River

Comment: I am a native to this land, I see what was once beautiful land now with Poles when I look towards the Mountain's @ Can't imagine what is going on with our wild life, used to see lot's of bird's no Eagles - why - because they are getting killed by Wind project - Our people are buried just under that wind project - the Tom family - Bamford family other Elder's - now with all fires we are losing all our wild life - what happen's if and when Mt Lassen does blow.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box only will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: 36970 PARK AVE - Burney Cal - Tribal Office

Email Address:

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail
 Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: <http://comment-tracker.esassoc.com/tracker/fountainwindeir/> by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.



PIT RIVER TRIBE
36970 PARK AVE.
BURNLEY, CA 96013

SACRAMENTO
CA 958
28 JAN '19
PM 7 L

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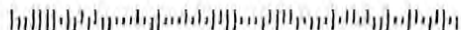


ZIP 96013
041M11283052

RECEIVED
SHASTA COUNTY
JAN 30 2019
DEPT OF RESOURCE MGMT
BUILDING DIVISION

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

96001-175928



From: Natalie Forrest-Perez [mailto:thpo@ pitrivertribe.org]
Sent: Thursday, February 14, 2019 4:39 PM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

Mr. Salazar,

Attach is a resolution signed by the Pit River Tribal Council, which is supported by Pit River Tribal Cultural Representatives and Elders that are elected by Pit River Tribal members.
We
oppose Use Permit 16-007, Fountain Wind Project.

Natalie Forrest-Perez
Tribal Historic Preservation Officer



Pit River Tribe
36970 Park Ave
Burney, CA 96013
Phone: (530)
335-5421 Ext. 1205
Fax: (530) 335-3140

Agnes Gonzalez
Tribal Chairman

Mickey Gemmill Jr.
Vice-Chairman

Tracy Eleck
Tribal Secretary



Jolee George
Recording Secretary

Brandy McDaniels
Tribal Treasurer

Lawrence Cantrell
Sargent At Arms

ELEVEN AUTONOMOUS BANDS

36970 Park Ave. Burney CA. 96013

Phone (530) 335-5421

Fax: (530) 335-5069

RESOLUTION NO: 02-02-19

DATE: February 14, 2019

SUBJECT: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

WHEREAS: The Pit River Tribe is a federally recognized Tribe composed of eleven (11) autonomous bands: Ajumawi, Atsugewi, Atwamsini, Illmawi, Astariwi, Hammawi, Hewisedawi, Itsatawi, Aporige, Kosealekte and Madesi, that since time immemorial have resided in the area known as the 100 mile square, located in parts of Shasta, Siskiyou, Modoc, and Lassen Counties in the State of California, prior to the issuance of Papal Bull Inter Caetera (1493) and the Treaty of Guadalupe Hidalgo (1848), AND;

WHEREAS: The Pit River Tribe is governed by the Pit River Tribal Council, the body duly Constituted and elected under the Constitution of the Pit River Tribe adopted August 15, 1987 and approved by the Assistant Secretary of the Interior for Indian Affairs on December 3, 1987, AND;

WHEREAS: The Pit River Tribal Council is empowered by Article VII of the Constitution to enact all ordinances and resolutions which shall be necessary and proper for carrying into effect the Council's powers and responsibilities, contract with federal, state, and Tribal government, private enterprises, individuals and organizations, AND;

WHEREAS: The Pit River Tribe has the authority to charter and regulate independent organizations, subordinate organizations, committee and boards of officials of the Tribe and delegate powers, AND;

WHEREAS: The Pit River Tribe has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the people of the Pit River Tribe, AND;

WHEREAS: Natural and Cultural resources as well as the Pit River people are indistinguishable within the harmony of the Pit River world, AND;

WHEREAS: The proposed Fountain Wind project lays within the Pit River Tribe ancestral band areas of the Madesi, Itsatawi and Atsugewi bands, which hold deep ties to this great place of refuge, ceremony, healing, prayer, fasting, hunting, gathering, and other sacred traditional uses, and as doing so The PIT RIVER TRIBE and its NATION as a WHOLE holds the proposed project area, ancestral area of great significance, culturally and spiritually, AND;

WHEREAS: This proposed project infringes on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance, AND;

WHEREAS: The sacred responsibility to maintain the health and integrity of the Natural World for future generations is also a central element of Pit River Peoples' spirituality, traditional ceremonial practices, religious expressions and identity, which is tied to the oral history and topography of the land, AND;

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ATWAMSINI

WHEREAS: The proposed project area is an integral part of the biological and watershed resources of the Pit River Tribal community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of the Pit River Tribal community, AND;

HEWISEDAMI

WHEREAS: Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors, AND;

ASTARIWI

WHEREAS: The PIT RIVER TRIBE invokes the United States Government's Trust Responsibility to the Indian Peoples of this land. Government-to-government consultation with Federal, State, and County governments is established and assured by laws, regulations, policies, and executive orders such as; the National Environmental Policy Act, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, the National Register Bulletin 38 on Traditional Cultural Properties, Executive Order 13007 on Indian Sacred Sites, Executive Order 13175, Executive Order 12898 on Environmental Justice, California Environmental Quality Act, Senate Bill 18, etc. prior to the implementation of activities within Pit River Ancestral lands and the repeated promises of good will by the United States Government, AND;

ILMAWI

ATSUGEWI

WHEREAS: The PIT RIVER TRIBE unanimously adopted a resolution on March 29th, 2012 affirming the United Nations Declaration on the Rights of Indigenous Peoples adopted by the UN General Assembly in 2007 and also endorsed by the United States on December 16th, 2010, AND;

ITSATAMI

WHEREAS: The United Nations Declaration on the Rights of Indigenous Peoples is the minimum standard for the dignity, survival and well-being of Indigenous Peoples and recognizes the rights of Indigenous Peoples pertaining to cultural practices, (Article 11), access to and protection of sacred sites (Article 12), spiritual relationship with traditional lands and waters (Article 25), environmental protection (Article 29) and Free Prior and Informed Consent regarding development projects (Article 32) among a number of other relevant provisions, AND;

APORIGE

WHEREAS: Internationally, the PIT RIVER TRIBE further invokes the legally binding international Covenants and Conventions, to which the United States is obligated including the International Covenant on Civil and Political Rights, and the International Convention on the Elimination of All Forms of Racial Discrimination, which also call upon State Parties to respect the cultural and religious rights as well as other relevant rights of Indigenous Peoples, AND;

KOSEALEKTE

AJUMAWI

NOW THEREFORE BE IT RESOLVED that the PIT RIVER TRIBE invoke these statutes, Declarations, Resolutions, decrees and Conventions and affirms its **Opposition** to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Therefore, the Pit River Tribe must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

HAMMAWI

BE IT FURTHER RESOLVED that the PIT RIVER TRIBE **Rejects** the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No Use Permit, No commercial scale energy project on the proposed site.

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C-E-R-T-I-F-I-C-A-T-I-O-N

I, the under-signed Tribal Chairperson, Agnes Gonzalez of the Pit River Tribe, do hereby certify the Pit River Tribal Council is composed of eleven autonomous bands of which were present, constituting a quorum at a regular scheduled, noticed, convened and held meeting this 14 day of February 2019, and the resolution was adopted by a vote of 6 yes 0 no 0 abstaining, and that said resolution has not been rescinded in any way.

Agnes Gonzalez
Tribal Chairperson, Agnes Gonzalez

2/14/19
Date

Tracy Eleck
Tribal Secretary, Tracy Eleck

2/14/19
Date

Tribal Council Member Signatures:

Consuelo M. Darias

02/14/2019
Date

C. Smith

02/14/2019
Date

Bruce Ward

2-14-2019
Date

[Signature]

2-14-2019
Date

[Signature]

2-14-19
Date

Randy Quinn

2.14.19
Date

Date

Date

Date

Date

Date

ATWAMSINI

HEWISEDAMI

ASTARIWI

ILIMAWI

ATSUGEWI

ITSATAMI

APORIGE

KOSEALEKTE

AJUMAWI

HAMMAWI

From: [PATRICIA RIGGINS](#)
Sent: Thursday, February 14, 2019 4:39 PM
To: [Lio Salazar](#)
Subject: Fountain Wind Project

Good evening, as a community member, a Pit River Tribal member and a Earth Warrior OPPOSE of the Fountain Wind Project! The Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and on the visual and air quality of this area . Also the project area is highly significant to my cultural and religious ways that help me and others in ceremony, healing, prayer, fasting and other sacred traditional uses. I oppose because I have great concern that this project will do more damage than good.

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| | | | |

Patricia Riggins- Keep Moving Forward!

2/14/19

Good Afternoon,

I am the Tribal Historic Preservation Officer (THPO) for the Susanville Indian Rancheria (SIR). SIR is a federally recognized Tribe comprised of 4 distinct Tribes: Mountain Maidu, Northern Paiute, Pit River and Washoe. I was emailed a message this morning about the Fountain Wind Project. I had not heard of the project until this morning. Is it too late to request Consultation under AB 52? I perused the planned project a bit. I have noticed that a portion of the wind mills will be in the foothills of Lassen Peak or Kohm Yamani as we refer to Snow Mountain in Mountain Maidu language. This mountain and area is sacred to the Tribe and opposes the placement of the mills in this area. For this reason it's opposed to certain areas that are also sacred to our neighboring Tribe, The Pit River Nation.

Respectfully yours,
Melany L Johnson THPO/NAGPRA Coordinator