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Fountain Wind Biological informaiton

Impacts of the Fountain Wind project on Biological Resources, 2 examples

Additional submitted attachment is included below.

To: Mr. Leonidas Payne, Project Manager

California Energy Commission, Environmental Office
715 P. Street MS-15
Sacramento, California 95814
Email: Leonidas.Payne@energy.ca.gov

Subject: Fountain Wind LLC Deficiency Letter

March 14, 2023

Dear Sir:

Introduction:

By way of introduction, my name is Steven Kerns and I am a Certified Wildlife Biologist, California State Certified Spotted Owl Expert, Shasta County Planning Commissioner and have served on the Bureau of Land Management's Resource Advisory Board for Northeast California and Western Nevada. My wife and I are the owners of Wildland Resource Managers, a management consulting group working with the timber, agricultural, mining and housing industries throughout the north state. I was one of the five Shasta County Planning Commissioners who voted to deny the Fountain Wind Project and helped draft the Shasta County Zoning ordinance barring industrial wind development in all unincorporated areas of Shasta County.

The Experts

I would like to bring to your attention that the men on the Shasta County Planning Commission who made that decision have vast experience in Shasta County resource management. One is a Registered Professional Forester with over 50 years' experience working in forest management in the north state, was a red-carded fire fighter with the Shasta Trinity National Forest and has vast experience with fire behavior. Another is a professional landscape architect, partner of a major local engineering and planning firm, and has worked on the impacts of major developments on natural resource landscapes across the north state. Another is a 4th generation plumber who is also a pilot and has served on the board of the California Pilots Association. He is intimately familiar with air traffic safety in our county. Another owns his own painting business and has served on the board of directors of the California Deer Federation. Finally, I began my resource management career with the California Department of Fish and Game (now Wildlife), then worked as a forest biologist and red-carded fire fighter on the Shasta Trinity National Forest prior to starting our biological consulting business. All of us serving on the Commission are long time Shasta County Residents (over 30 years for the newest) and all have been impacted by the fires that have burned within our county. Three of the five have nearly lost our homes to one of the Shasta County fires. We studied and heard testimony on the original Fountain Wind Project for over three years after which we all came to the same conclusion; industrial wind farms have no place in the Shasta County's forest and woodland environments.

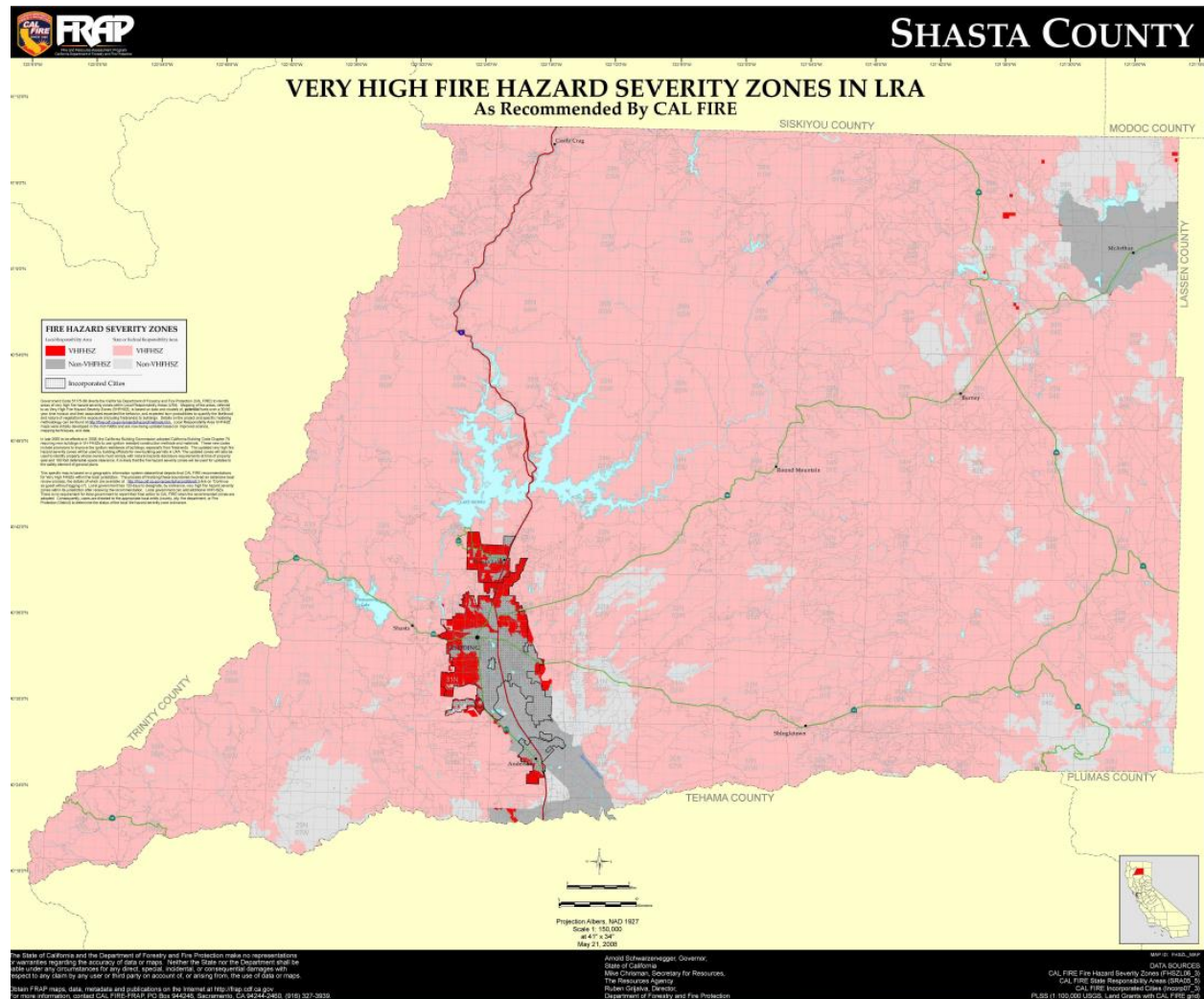
Issues of Concern: Fire

I am writing to address several issues in the CEC Deficiency letter of 2/10/23 to Fountain Wind LLC concerning their application to construct up to 48 wind turbines in the Montgomery Creek/Round Mountain area of Shasta County. As you are aware, that project was denied by the Shasta County

Planning Commission by a 5-0 vote. That decision was appealed to the Shasta County Board of Supervisors (BOS) who upheld the Planning Commission’s decision by a vote of 4-1. Subsequent to that decision, the Planning Commission, with the help of County staff and council, drafted and sent to the BOS a recommended zoning change to prohibit large scale wind farm development in all unincorporated areas of Shasta County. The primary reason for the ban is that nearly 100% of the unincorporated areas of Shasta County are rated at the highest tier of the fire severity index by the California Department of Forestry and Fire Protection (see Figure 1 CDF Very High Fire Hazard Severity Zones). Over the last several years of drought, Shasta County has experienced six catastrophic wildfires (Carr, Dixie, Hirz, Delta, Fawn and Zogg) resulting in 488,939 acres burned, 2,105 structures destroyed and 12 lives lost (see Figure 2). Preventing or at least controlling wildfires is a primary concern for resource managers in Shasta County for the safety and welfare of our citizens. The Planning Commission and the BOS heard multiple testimonies from air tanker pilots that the use of air tankers in and around wind farms is all but impossible. The BOS approved the zoning change by a vote of 5-0.

Figure 1.

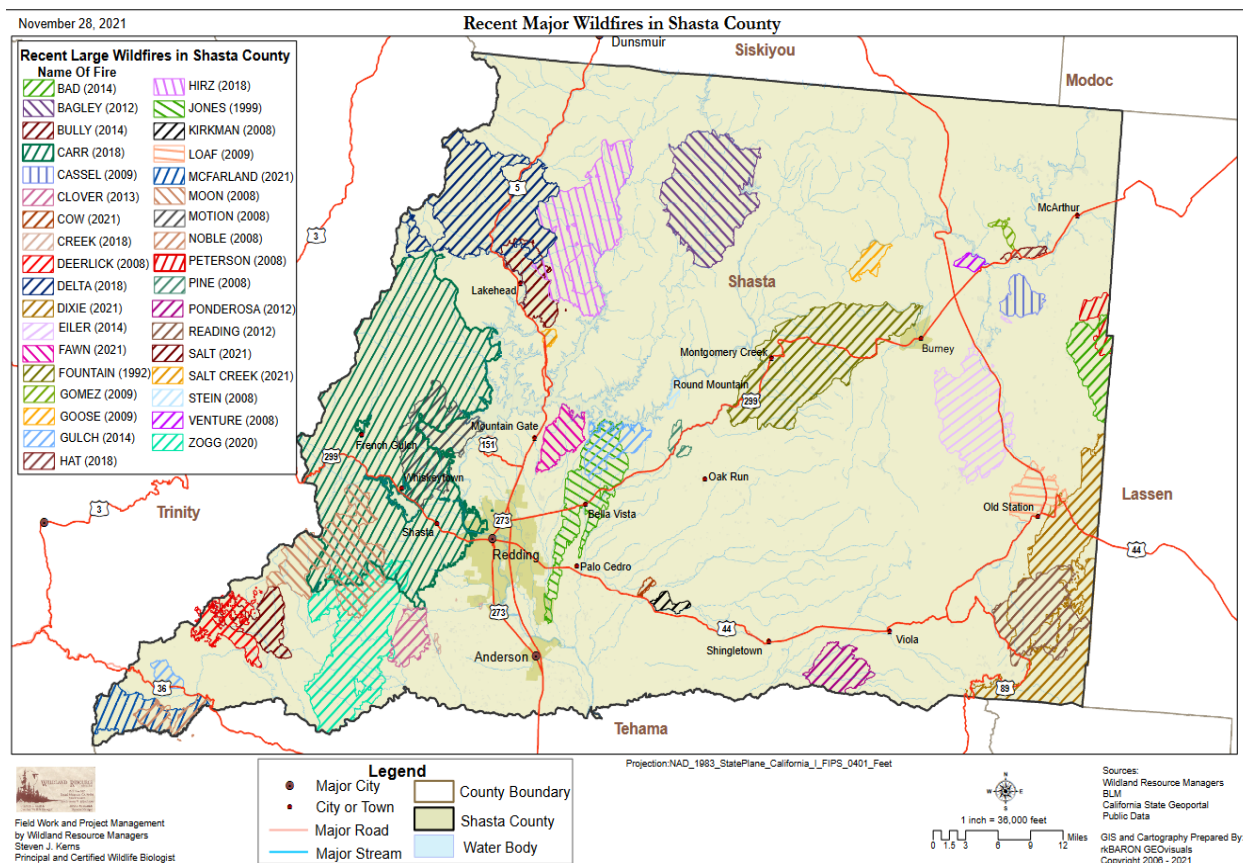
Cal-Fire Map of Very High Hazard Severity Zones in Shasta County



From the Cal-Fire map it may be clearly seen that Shasta County is in a fire climax ecosystem due to the north state weather, soils, topography, and vegetative communities. Many of the vegetative species found in the county such as wedgeleaf ceanothus, lemon ceanothus, bitterbrush, chemise and others have highly flammable oil and resin content and by nature are fire climax species. This combination of weather, topography and vegetative composition causes Shasta County every summer to experience “fire season.” The results of “fire season” may be seen in Figure 2 showing that most of the county has experienced large catastrophic fires within the last several years.

During public testimony our Commission heard from air tanker pilots that a project such as Fountain Wind creates a no-fly zone for air tankers and rotor wing aircraft due to the location and size of the turbines. The ability to use air attack on fires is key to containing a fire as rapidly as possible, thereby reducing its destructive impacts to human life and natural resources. This fact cannot be understated for our county—we must have the ability to fight fire with and by every available means. A windfarm removes air attack and significantly limits firefighting capability, thereby endangering people’s lives, property and resources. You cannot mitigate for a life lost.

Figure 2. Major wildfire locations in Shasta County



Biological Resources, two examples

In Attachment A of the biological section in the deficiency letter a number of species, both plant and animal, were listed that should be addressed as potentially impacted by the project's development. This assessment can be made fairly easily by a competent biologist looking at a species' habitat requirements and determining if such habitats exist within or near the project area. Once those species that could be impacted are identified, mitigation can often be made by either adjusting the project's footprint or purchasing mitigation credits in one form or another. But to take this approach for an industrial wind farm over a forest ecosystem is completely inadequate in that the windmills not only are a continual source of a taking (kill, harm or harass) of certain species by their location and continual movement of the blades, but also prevent through time, the effective management of ecosystem change brought about by a wildfire, as previously described.

I cite two examples:

Bats:

Bats are critical to California agriculture. They feast on insects each night, adding up to more than \$3.7 billion worth of pest control each year in the U.S. (NPS Web pg.). When bats forage on insects, there are fewer insect pests causing damage to crops, reducing a farmer's need to invest as much in pesticides. However, wind energy development affects bats through direct mortality and indirectly through impacts on habitat structure and function (Arnett et al. 2007; Arnett 2012; NRC 2007; Strickland et al. 2011). Arnett and Baerwald (2013) estimated that cumulative bat fatalities in the USA and Canada ranged from between 0.8 to 1.7 million over a 12-year period from 2000 to 2011. This estimate was projected to increase by 0.2–0.4 million bats in 2012 based on the assumptions of installed wind power capacity. Bats are killed by blunt force trauma (barotrauma) and may also suffer from inner ear damage and other injuries not readily noticed by examining carcasses in the field (Baerwald et al. 2008; Grodsky et al. 2011; Rollins et al. (2012). Kunz et al (2007) proposed several hypotheses that may explain why bats are killed and some of these ideas have subsequently been discussed by others (e.g., Cryan and Barclay 2009; Rydell et al 2010a). Collisions at turbines do not appear to be chance events. Bats are attracted to turbines either directly, as turbines may resemble roosts (Cryan 2008), or indirectly, because turbines attract insects on which the bats feed (Rydell et al. 2010b). Horn et al. (2008) and Cryan et al. (2014) provide video evidence of the possible attraction of bats to wind turbines-such impact to bat species cannot be mitigated away as the source of the impact continues through time due to the continual motion of the windmill blades. Within the footprint of the windfarm, bat habitat will be eliminated as forest structure is removed to make way for the building of the turbines and their associated structures. But the key point from the literature is that wind turbines attract bats and in doing so, there is on-going bat mortality due to their existence and movements.

Owls:

Within Shasta County there are a number of owl species present including two listed species, the Northern and the California spotted owl. Both species have similar habitat requirements including, but not limited to, a sufficient prey base, a multi-story forest canopy structure, available water, suitable

nesting structure and suitable roosting and dispersal habitat. In-short, these species, along with goshawks, red tree voles, flying squirrels, fishers and martins are “in-forest” dwelling species.

After the Carr Fire of 2018 our firm (Wildland Resource Managers (WRM)) was contracted to investigate whether owls were present in territories that were burned over by the fire. What we found was that if the fire had burned the tree canopy as well as the understory, owls were not present. This was to be expected as forest canopy structure as well as prey-supporting habitat was gone. Simply, there was no way for an owl to make a living.

In 1992 there were approximately 140 known spotted owl territories within Shasta County (USDA, 1992). The fires shown in Figure 2 burned through 80% of those territories impacting approximately 112 owl territories to some extent. From the results of our surveys in 2018 it may be postulated that owls from those territories were either lost or displaced.

Figure 3 Wildland Resource Managers owl survey crew, Carr Fire 2018.



As seen in Figure 3, the timber stand behind the owl survey crew is no longer suitable owl habitat as herbaceous vegetation as well as canopy structure has been consumed by the fire. This eliminates suitable habitat for prey species as well as arboreal habitat for nesting, roosting, thermo cover, and dispersing.

The question then becomes if an owl is not killed outright by the fire, what happens to it? Our firm has been engaged in spotted owl surveys across northern California annually since 1988. What we have found is that generally all suitable owl habitat is occupied, either by a spotted owl or barred owl. So, a displaced owl must either displace another owl, relocate some distance to an un-occupied habitat, or die. At the very least, a fire causes a major disruption to individuals of the species and their ability to reproduce. The only way to mitigate this disruption and loss of habitat is to contain a wildfire as rapidly as possible. Hence the necessity of bringing all fire fighting resources to the scene as rapidly as possible. Air attack is critical to that effort and a windfarm is a major hinderance to that effort.

I cite these two examples to make this point. The impacts of this project must be seen on the biological macro-scale not the micro-scale. It is insufficient to assess just the foot print area's impact to plant and animal species but rather the ongoing impacts produced by the project operations and the exceedingly detrimental impacts of the inability to bring firefighting resources to bear in the area of a wind farm. The impacts and potential impacts go far beyond the immediate footprint area.

Skewed thinking:

In their brochure entitled "Introducing the Revised Fountain Wind Project," which was sent to Shasta County residents, ConnectGen states that the revised project, (the one now being considered by your agency), will reduce "impacts to habitat and wildlife" (ConnectGen 2022). The statement is correct in saying that reducing the project from 72 turbines to 48 will have less impact but by reference acknowledges there will be impacts although not discussing the severity of those impacts. Then in a letter to Shasta County residents from Fountain Wind.com, Henry Woltag, Project Manager, states that the project "preserves Shasta County's diverse wildlife including birds and bats and takes every effort to mitigate environmental impacts to the county's pristine natural resources." The letter goes on the state that the project "exceeds or meets every federal, state and local law" (Woltag. 2021). Sadly, these statements are simply incorrect. If you are going to "preserve" then there is no reason to "mitigate." Rather, the project will have on-going and devastating impacts on several sensitive wildlife species, two of which have been discussed above and will result in a "taking" of listed wildlife species either by direct killing of individuals or by habitat modification to where individuals of a species will be displaced. ConnectGen is a Texas based company and as evidenced by their publications has little understanding of northern California forest ecology. If they did, they never would have proposed this project in Shasta County.

A decision and action at two levels

The members of the Shasta County Resource Planning Department, Planning Commission and Board of Supervisors recognized the dangers of the Fountain Wind Project and similar projects to the citizens and natural resources of our county. The dangers of wildfires extend far beyond the footprint of the Fountain Wind Project. The wind turbines would be an obstruction to the most effective firefighting tool, the aerial application of fire retardants. The Shasta County Planning Commission and Board of Supervisors voted to deny the project and the Board of Supervisors put in place a protective zoning ordinance. These actions were taken after 3 plus years of study, fact finding and public testimony. I ask that you recognize that extensive effort by qualified resource experts and support those decisions by denying Fountain Wind's application. Thank-you for your consideration of this important issue.

Respectfully submitted,

Steven J. Kerns

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