

**Testimony of Will Staats**

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My name is Will Staats and I live in the Northeast Kingdom town of Victory, Vermont. I am a certified Wildlife Biologist and also run a small guide business in my spare time. I am an avid hunter, trapper and have spent a good portion of my life exploring wild places. For the record I believe in global warming. It is this very fact that causes me concern about the plight of our sensitive mountain ridgeline habitat. In fact, as the climate warms, these high elevation islands of fragile habitat will become even more important.

I have walked hundreds of miles of mountain ridgelines in Vermont, north western Maine and northern New Hampshire. As a young man I camped along the Long Trail in Vermont's central Green Mountains snowshoeing long bobcat and fisher trap lines while sleeping nights in homemade shelters or a tent. In my professional career I have studied and worked in high elevation forests in northern Vermont and New Hampshire for 30 years. Working for Vermont Fish and Wildlife in the 1980's, I reviewed Act 250 permit applications for timber harvests planned for mountain ridges above 2500 feet and ski area development. I performed wildlife and forest habitat surveys on numerous mountain complexes. As a forester for a large timber company, I supervised logging operations on mountains in northern Vermont. In the 1990's, as a Wildlife Biologist in New Hampshire, I helped negotiate the High Elevation Memorandum of Agreement between State agencies, The Appalachian Mountain Club and numerous landowners resulting in specific guidelines for timber harvest above 2700 feet, ultimately protecting sensitive wildlife habitat. My broad experience working in this exceptional environment has provided me with a unique insight and understanding of why we must protect this rare, quickly disappearing type of habitat. I believe this was also recognized years ago by Vermont visionaries who put safe guards in place through Act 250. Sadly, since the energy projects planned for these habitats are handled by the Section 248 process, the strong protections of Act 250 are not enforced.

For the past four years, in my work as a biologist for the State of New Hampshire, I have been closely involved with the environmental review of a 33 Turbine IWT project in Northern New Hampshire involving four mountain summits. I've monitored all phases of this project including hiking the alignment, reviewing turbine locations, helping to formulate mitigation and developing pre and post construction studies. This project has given me a firsthand knowledge of what a mountain looks like before and after an IWT project and has helped me better understand the process of proper siting, construction and resulting effects on the mountain ecosystem. As part of this project, my agency has spear-headed two ground breaking wildlife studies on the affected mountain ridges, studying the

ecology and the impacts to the American Marten and Bicknell's Thrush. These are the very first studies of this kind, performed in this habitat, involving these species.

It is important to emphasize that many non-governmental proponents of Industrial Wind Turbine (IWT) projects have little or no on-the-ground experience in this environment. Frequently these proponents pay a brief visit only after a wind generation facility is built. One can only truly comprehend the scale of disturbance by first visiting an undisturbed mountain ecosystem and then being present for all phases of construction from design to the finished operation. In short, an "after the fact" bus tour cannot begin to reveal the story of these projects as they unfold.

Due to the rapid increase in wind development projects in the Northeast, Wildlife Biologists and Natural Resource Managers are expressing their growing concerns regarding large scale wind development and its impacts to sensitive habitat and the wildlife that inhabit these areas. High elevation land (2500 feet and higher) is a scarce resource in the Northeast and is limited to approximately 3 % of Vermont's total land area. Concerns for the sensitivity of this habitat prompted Vermont to enact the tough development law, Act 250, which requires a permit for any activity occurring above 2500 feet, including timber harvest.

Wildlife is impacted by IWT development at various levels. At a forest stand level, forest cover is removed and permanently lost for some species due to the project footprint. Important wetlands can be compromised or destroyed during construction and headwater, seeps and feeder streams directly impacted. For birds and bats, turbines pose a new source of mortality in these habitats. At a landscape level, habitat connectivity and resiliency across the forest landscape may be compromised depending on the scale of the project and its context within the surrounding forestland.

High elevation forests can provide stands of trees in an older, aged condition, interspersed with natural gaps and holes. Some wildlife use mountain ridgelines as a refuge from more developed areas at lower elevations. Over the years we have handled numerous black bears that seek out these areas for den sites due to their remote location. The mountain ridges may be the only undeveloped areas in a region and serve as critical corridors for wide ranging species including bobcat, lynx, bears, fisher and marten. These animals exist more successfully with infrequent human contact. One of the more rare birds in the Northeast, the Bicknell's thrush, resides exclusively in high elevation forests.

Many unanswered questions exist regarding the impacts of wind development on wildlife in these sensitive habitats. It will take years to fully understand the impacts. Increased human presence influences the use by wildlife in these habitats. How do the dynamics of predator and prey change due to the edge effects of road cuts or hard packed snow roads in the winter months? We know that wildlife have hearing far more sensitive than humans. How is the noise impacting the ability of wildlife to communicate, hunt or breed?

Our current permitting policies do not allow resource managers and clean energy advocates any time to analyze ongoing wildlife studies before committing to further industrial scale projects on additional ridgelines. Studies need to evaluate the cumulative impacts of these projects instead of looking at each project in isolation. Biologists understand that it is critical to evaluate the importance of providing

connectivity for wildlife across the greater landscape to ensure genetic exchange and access to habitat resources. IWT projects that sprawl across miles of undeveloped ridgelines may be fragmenting important forestland habitat far greater than we now realize.

Our research in northern New Hampshire has demonstrated that turbine access roads built on these remote mountains become vectors for coyotes and foxes. Maintenance vehicles traveling to and from the turbines continually pack the snow providing a firm base on which these canines travel from lower elevations to the ridgelines. We have followed tracks of these animals demonstrating this behavior on numerous occasions. Windswept turbine pads and road cuts contribute to the creation of a packed snow surface in the unbroken forest adjacent to these openings. Canine predators can now penetrate the mountain forest where the snow would previously have consisted of a loose and fluffy surface. As a result of the project construction, the ecological community of these forests have been drastically changed, possibly putting additive stressors on the endangered marten. Necropsies that we performed on our marten research animals revealed that a number of these animals were killed near the project area by coyotes, foxes and fisher. This research is currently under analysis and will be available to the broader public by next year.

Wildlife Biologists and Ecologists are alarmed about global warming and understand the need for sensible, responsible renewable power. However, given the scarcity and fragility of high elevation habitat, we need to question if these limited mountain ecosystems should even be considered at all as a choice for this type of intrusive development. As our wild lands continue to disappear at an alarming rate through a “death by a thousand cuts”, we have to ask ourselves “where will our wildlife reside in this ever shrinking natural landscape”?

As the climate warms these complex mountain habitats will change slower due to their elevation and will serve as a refuge for species allowing these animals the ability to adjust and evolve to higher temperatures and changing habitat. To escape more pronounced changes at lower elevations some species of wildlife will migrate up slope in to these higher elevation forests. Our mountain ridgelines will continue to serve as critical corridors for wildlife traveling across the landscape providing important uninterrupted connections between distinct populations. In fact, some argue that their role as refuge is their most valuable attribute in the battle against climate change – far more valuable than they could ever be as a site for industrial electricity generation.

I would also like to help dispel a myth regarding wind power and that is the notion that Vermonters can recreate near these huge machines. It has been inferred that snowmobiling and hunting can coexist with a IWT project but I can assure you this is the last place one would, or should, choose to pursue these pastimes. The danger of ice throw cannot be over emphasized. I have often worked near these turbines on our research projects in the winter and witnessed the large divots in the snow where ice has been flung from the turning blades. I have seen the steel stairs leading to the doors of turbines bowed and broken by ice falling from the nacelle. And, on one terrifying occasion, my truck was struck by flying ice that, had it hit me or anyone else close by, would have killed or caused serious injury to one of us. One operator of a wind installation told me these machines will throw a four hundred pound chunk of ice one thousand feet. And I would also add, having worked near and under these turbines on numerous

occasions, I can say with certainty that the noise alone would prevent any sort of enjoyment I might get out of what was formerly mountain solitude.

Addressing climate change will require sacrifice, leadership and courage. Courage to admit when one is wrong. And I believe industrial wind, as currently proposed, is wrong for Vermont. We should not sacrifice one non-renewable resource, our ridgelines, in the misguided attempt to replace other non-renewable resources. We need to stop groping for symbolic non-productive solutions, as we literally tilt at windmills in our efforts to combat the real threat of global climate change.

I sincerely thank you for taking the time to read my lengthy testimony. Please feel free to call me with any questions. I invite you to climb these threatened ridges with me to discover this unique and irreplaceable mountain habitat before it is destroyed.