

VCE Testimony to Vermont House Natural Resources, Fish & Wildlife Committee

February 14, 2019

1. My name is Annette Smith. Thank you to the Chair and the committee for hearing my testimony today.

I am executive director of Vermonters for a Clean Environment. For the last two decades, I have been an advocate working with Vermont citizens and towns to raise their voices and assist them in participating in environmental regulatory processes. VCE also works to hold corporations accountable for their impacts to Vermont communities. For the last decade I have been immersed in renewable energy development as regulated by the Public Utility Commission.

In today's presentation I will share VCE's experience with specific environmental impacts of renewable energy development, especially wind and solar, on water quality, forests, wetlands, and wildlife, with an eye towards regulatory reform that results in meaningful environmental protection.

2. VCE supports the intention of increasing protections for high elevations by reducing the elevation standard from "above 2500 feet" to "above 2000 feet". However, we encourage the committee to consider that "above 1500 feet" is defensible. Gov. Deane Davis, the moving force behind Act 250, emphasized the importance of the 1,500-foot elevation and higher: "We have taken the public policy position in our administrative agencies which have this responsibility to give as near complete protection to what we call the pristine streams — those streams that are above 1500 ft. — where the streams are clean and unpolluted and where there is a movement, a very definite movement, toward development." That statement is even more true today than it was when he said it.

3. 4. We offer several versions of maps to illustrate the different areas, some of which incorporate the Green Mountain National Forest which, once incorporated, makes it clear that the "above 1500 feet" standard is not as extreme as it appears without the national forest included. We note, however, that the GMNF designation is not a prohibition against high elevation development.

5. In the last 15+ years, numerous high elevation industrial wind projects have been proposed for Vermont. Four have been constructed. Three include areas above 2500 feet. One is above 1500 feet. All four are in high priority habitat blocks. To date, the Agency of Natural Resources has opposed three projects, two of which were dropped by the developers (Vermont Community Wind Farm in Ira and Grandpa's Knob on Pittsford Ridge). The developers did not drop the projects due to opposition by ANR, which was only clearly expressed in the Grandpa's Knob case. Community opposition drove off funders which resulted in the developers going away. ANR also initially opposed the now-constructed Deerfield Wind project under Gov. Douglas's administration, but that project was able to proceed due to ANR's agreement during Gov. Shumlin's administration in 2016 to alter the Certificate of Public Good issued in 2009 that addressed bear habitat mitigation. If not for ANR and other parties' agreement, the project would not have proceeded. For unknown

reasons, ANR did *NOT* oppose the Eolian Wind project which was proposed in the largest and highest priority habitat block in Vermont.

What has happened to the environment with the four operating industrial wind projects is a large topic that cannot be fully covered in this testimony; however I will bring out key points to assist in informing the discussion about how Vermont is now regulating high elevation energy development projects with an eye to improving environmental protections.

6. Sheffield Wind began operating at the end of 2011. It is primarily sited on a parcel owned by Meadowsend Timber Co. of New Hampshire, with some turbines on other leased smaller parcels. It is mostly above 2000 feet, with some above 2500 feet. It contained important bear habitat, and is part of a high priority habitat block. The project required 5 ½ miles of new roads.

7. Water Quality issues arose in 2008 and were well articulated by the US F&W Service in a letter to ANR's Water Quality Division. These issues are fundamental to protecting water quality. What happened with the Sheffield Wind project set the stage for enabling the degradation of our high elevation waters. Writing for the US F&W Service, Vern Lang identified two areas of concern: Turbidity and Temperature.

8. The wind mountains in Sheffield contain numerous high elevation headwater streams. The turbidity standard for protecting aquatic habitat is 10 NTU. The species that live in high elevation streams are very sensitive to sedimentation, yet Vermont's ANR proposed a standard of 25 NTU and Mr. Lang questioned how that will ensure compliance of the protective standard.

9. Temperature is another critical area of importance to water quality, as Mr. Lang articulated in his 2008 letter.

10. So, how did Sheffield Wind overcome Mr. Lang's concerns? Bernie Sanders got involved and Vern Lang was taken off the case. ANR's stormwater permit set the monitoring locations a mile and more from the top of the mountain, essentially sacrificing the headwater streams entirely.

11. 12. 13. 14. 15. 16. Photos from the construction site taken in May 2011 show that sedimentation was entering high elevation streams, runoff was underestimated, concentrated flow was occurring in areas where there was none before. In other words new stream channels are being cut into the mountain.

17. In response to VCE bringing these issues to ANR while the project was under development, the site was declared to "look excellent" and "substantially in compliance".

18. Lowell Wind went into operation at the end of 2012. It is mostly built on a parcel owned by one man from Oklahoma, along with some smaller leased parcels. It required 6 ½ miles of new roads.
19. The Lowell ridgeline contains peaks above 2500 feet, some of which were blasted away entirely. Most of the wind project is on lands above 2000 feet.
20. It is located on a ridgeline that is part of a high priority habitat block that was identified by Staying Connected as important for connectivity and movement of wildlife in the region. As part of the regulatory process, parties entered into a Connectivity Easement to mitigate the impacts of the wind project. The Connectivity Easement parcel is a mile south of the Lowell wind project, and the intervening land is not conserved.
21. The Lowell ridgeline is in both the Lake Champlain and Lake Memphremagog watersheds. 2.7 miles of new access road (most of which was not previously a logging road) plus 3.8 miles of ridgeline “crane road” were constructed to specifications similar to Interstate highways, which was necessary to get the turbine parts weighing 200,000 pounds up to the ridgeline. Because GMP was racing to get the project built to get the federal subsidy called the Production Tax Credit, in some places the roads are wide enough for two big trucks to pass. The site has 27 acres of new impervious surface.
22. Vermont’s high elevation ridgelines have soils with the highest erodibility factors in the state.
23. The Lowell ridgeline has hydric soils and numerous Class 2 wetlands.
24. The wind project involved filling hundreds of feet of Class A1 waters above 2500 feet to build the road network. Due to the lack of access to ANR stormwater staff, the opportunity to improve the project was lost. Experts hired by Energize Vermont found that the road could have been moved to avoid impacting the Class A1 stream, and that information and much more was provided to ANR, EPA and US Army Corps. Nothing mattered, especially good science, as the political pressure to move the project forward was intense, as we were told directly by staff at both EPA and US Army Corps. The people who told us that were either removed from the case or left their jobs.
25. As with the Sheffield Wind project, the state’s regulatory response to the challenges of protecting high elevation headwater streams was solved by eliminating them from the monitoring requirements. At Lowell, the monitoring locations are a mile or two away from the ridgeline, assuring that the turbidity and temperature of the headwaters are unknown and unprotected.
26. We have some before and after photos. I have been on many high elevation ridgelines in Vermont in the last decade and never have I experienced the beauty

and vitality of the Lowell mountain prior to its development (destruction). It was full of life, with moose dung everywhere, moss-covered rocks dripping with water, incredible botanical displays. It should have been a state park. Now on a summer day what had been cool, with a tree-covered canopy, is dry and hot exposed rock.

27. Bald Peak was completely blasted away to make way for the road as it goes from east to west. See the person in the before photo for scale (left of center). The amount of blasting that occurred for the Lowell wind project is astonishing but has never been disclosed. Estimates are that 1 million pounds of explosives were used, possibly more. The formula for blasting with ANFO – Ammonium Nitrate and Fuel Oil – is that for every million pounds of AN, 9000 gallons of FO is needed. A groundwater public trust analysis should have been done by ANR as part of the Lowell wind project development, if 9000 gallons of fuel oil was injected into the groundwater.

28. The Lowell ridgeline contained some very special areas, including this one on the eastern slope near the top of the mountain. What had been a beautiful natural area is now covered in toxic iron floc.

29. Another very special area is a wetland that ran both north and south. By 2016 it, along with much of the ridgeline environment, was mostly dry.

30. In 2016, VCE conducted an investigation into the stormwater system at Lowell wind. We should note that our numerous formal requests for a site visit by the water quality experts we have confidence in have been repeatedly denied by Green Mountain Power. However, the site is not posted and the information we obtained was done legally.

The stormwater system consists of conventional and innovative elements. The system in Sheffield was viewed by some as too big an impact, with large stormwater retention ponds. So “level spreaders” were introduced as “innovative” for the Lowell stormwater system. The experts we work with at Princeton Hydro researched level spreaders and commented to ANR that they are absolutely not advised for steep slopes. The majority of the level spreader locations on the Lowell mountain wind project are on steep slopes. It made no difference, ANR disagreed.

Our investigation found that even the traditional stormwater elements called “wet” ponds were not holding the water necessary for treatment. We further found that the “wet” ponds were leaking sediment which was flowing downhill and in some cases creating new stream channels.

31. The stormwater system requires regular maintenance, including removing sediment which is then deposited uphill and seeded. That sediment likely contains heavy metals, but we are not aware of any testing or monitoring requirements.

32. 33. Numerous locations on the Lowell mountain now have iron seeps, which kill life. We are under the impression that there is an iron floc mitigation requirement in the stormwater permit, but have seen no evidence that the problem is being addressed.

34. This image provides some context for the location of what has been shown.

35. This level spreader has been repaired. When there are strong storms, water runs from the road into the level spreader and if there is too much water, it runs over the top and down the back.

36. 37. 38. Princeton Hydro predicted that this design would result in concentrated flow rather than sheet flow, and we have documented that is in fact what is occurring.

39. 40. 41. 42. 43. Our investigation also revealed that large quantities of herbicides were being used on the ridgeline to control invasive species. We understand that GMP switched to having the invasive species pulled by hand due to our investigation. During the permitting process, the testimony was that any vehicles going onto the ridgeline would be inspected for invasives. However, GMP has opened the site to public tours and allowed hundreds, if not thousands, of private vehicles up on the mountain. And invasives are spread by birds, so once those roads are in, there is no stopping the spread of invasives.

44. We also found that numerous trees were dying along the roadside edges and extending into the forest below. Eric Sorenson of ANR predicted what would and is happening.

45. GMP submitted its petition to the PUC during the Douglas administration. The testimony of ANR staff was that the project would have an undue adverse impact on the environment. Within two months of taking office, Gov. Shumlin held a press conference and announced that GMP would “march in lock step” with ANR. The ANR and DPS staff testimony changed overnight, all stating there would not be an undue adverse impact, even though the facts did not change.

46. 47. After publishing our investigation in 2016 and presenting it to an earlier version of this committee, the only change we were aware of was the hand pulling of invasives. ANR continued to defend the stormwater system as operating according to design, with no problems. We went back in 2017 and found iron seeps with no evidence of mitigation, and more maintenance of level spreaders.

48. 49. We also found that someone had made a rather lame attempt to stay the flow of sediment downhill of the level spreader by cutting up a tree and putting in stakes. It wasn't working, but it is evidence that someone knows there is a problem with uncontrolled sedimentation flowing from the stormwater features.

50. Georgia Mountain Wind went online at the end of 2012. It is located on parcels primarily owned by one person or his company. It required about a mile of hardened road.

51. The site is above 1500 feet, and is in a high priority habitat block. There were some Rare and Irreplaceable Natural Areas and the town plan contained protective language, but it didn't matter.

52. The people who live in the area are devastated by the destruction of the beautiful mountaintop.

53. Because of its size, it did not require an individual stormwater permit. It has a huge stormwater basin at the bottom of the mountain. When people from Swanton and Fairfield with some expertise in water quality and roads visited the Georgia Mountain wind site to learn about industrial wind when a wind project was proposed for their neighborhood, they followed the system down to the stormwater pond and found everything was blocked with debris and the system was not being maintained properly.

54. Deerfield Wind went online at the end of 2017. It required 5 miles of new roads. It is the first industrial wind project to be built on USFS lands.

55. The wind turbines are all above 2500 feet, in a high priority habitat block. In fact, the two ridgelines contain the highest quality beech stand in the state, which was THE cafeteria for bears. ANR opposed the project and on the witness stand, the bear biologist testified that destroying the beech forest for the wind project could wipe out a genetically distinct family of bears.

56. 57. 58. 59. 60. The PUC approved the project in 2009 in a split 2-1 decision. VNRC was also a party in opposition. Neither ANR nor VNRC appealed the project's approval. After the USFS issued its Special Use Permit, VCE sued the USDA/USFS in an attempt to protect the George D. Aiken Wilderness next to the project site, and to protect the bear habitat and water quality, as the same stormwater system with traditional and level spreader elements was already permitted by ANR for Deerfield Wind. As with all our experiences with wind project approvals, even in Federal Court when the decision came out, "it was as though we weren't even there." The project was on President Obama's top 10 infrastructure projects nationwide to fast track. Judge Garvin Murtha ruled in favor of the USDA/USFS and we did not appeal to the Second Circuit Court.

61. Condition 11 of the PUC's 2009 approval required the conservation of at least 144 acres of comparable remote, high elevation area of concentrated beech stands. Deerfield Wind was not to commence any site work until the Board approved the mitigation proposal. The PUC also required Deerfield Wind to fund a multi-year study of the impact of the project on bears.

62. Unable to find that much high quality beech forest – no surprise since it is the highest quality in the state – in 2016 Iberdrola returned to the PUC with a deal negotiated with ANR and the parties to the case, including VNRC, in which the “Stratton Conservation Easement” was put forward as a partial solution. Though not final, it was said to have been negotiated by the Conservation Fund a year before, and would lease 100 acres of forest near Stratton from Meadowsend Timber Co. The rest of the required mitigation lands would be acquired later, and ANR assured the PUC they could be found, eventually.

In August, 2016, the PUC approved the change to the CPG condition with no deadline for conserving the additional acreage, and the caveat that if the Stratton Conservation Easement fell through, money could be paid to ANR and ANR would be able to conserve the full 144 acres using the funds provided.

63. On Monday night, the ANR person conducting the bear study made a presentation in Woodford about the bear study. In response to questions at the end, she disclosed that the Stratton Conservation Easement fell through (apparently the timber company raised their price), and so at this time, a decade after the CPG was issued and nearly three years after the mitigation condition was changed, no mitigation lands have been acquired and there is no deadline for when that must occur.

64. The bear study is still a work in process, but some information was provided. Because of VCE’s litigation, a lot of preliminary data was obtained. It clearly showed that the two ridgelines proposed for the wind project were THE feeding ground for bears. This image shows the pattern of one female bear before the project was built in a year with a good crop, and again during construction with another good beechnut crop, where the bear stayed away the ridgeline.

65. The behavior of another bear during the Oct. 2017 bear feeding and wind construction period shows one male bear who had never gone east of Searsburg who did go from the Aiken Wilderness to the wind project site, but immediately left and went to unknown territory.

The Deerfield Wind bear study will continue until 2021.

66. Renewable Energy development has enabled some things that I never ever thought I would see in Vermont. One is the filling of Class A1 headwater streams above 2500 feet. Another is allowing development on Class II wetlands. Up until about 2016, we were aware of only two permits issued by ANR for solar projects on Class II wetlands. We thought that they had learned their lesson and weren’t going to do it anymore.

67. 68. During one PUC case where the ANR wetlands division person was on the witness stand, she disclosed under questioning that ANR had issued a lot more than

two such permits. So I got the files from 2010 through Jan. 2018. I pulled out the basic numbers and put them into a spreadsheet, and will show you two.

69. South Forty Solar is in Burlington on a forested Class II wetland next to Lake Champlain. With all the concern about water quality and Lake Champlain, this is the last site I would have thought would be approved for development. I was contacted by a neighbor who intervened and brought all the relevant documents for Burlington which included the goal of increasing the inventory of trees in the city into the PUC process, to zero effect.

70. The desired amount of forest is cut, after permits were issued by ANR and the PUC, with approval by Burlington. BED is purchasing the power at above market rates.

71. The Barton Solar site is almost entirely a Class II wetland. VCE assisted the neighbors to the south in participation at the PUC in 2014.

72. We filed comments on the draft wetlands permit, the only comment we filed on any of these permits for solar in wetlands, and probably the last comment VCE has filed with ANR because nothing we say ever seems to make any difference.

73. Our comments were assisted by input from Princeton Hydro, where their environmental engineer was at the time pursuing his masters degree and his thesis was about siting solar and the impacts to the environment.

74. In addition to the narrative, we provided numerous citations to support our comments, with the goal of educating ANR staff.

75. The Wetlands permit was issued, the project was built, and as anticipated, a tremendous amount of sediment came off the site in spring, to such an extent that

76. a neighbor farmer dug a trench to the river to keep the sediment from spreading onto his fields.

77. After that occurred, the USDA advertised that the applicant applied for financial assistance with the requirement of a "No Significant Impact" finding. VCE and the neighbor submitted comments and photos. No matter, the money was awarded.

78. Some aspects of solar siting that we keep encountering are not foreseen in the regulatory process. Specifically, the impacts on forests to be cleared for solar projects, and areas occupied by wildlife that do not rise to the status of "necessary wildlife habitat."

79. Take for example the parcel proposed for development next to a major highway interchange. The forest on the 27 acre parcel is fairly low in priority for habitat, but the people who live in the residential neighborhood uphill say it has bear, deer, and

small game that have already been displaced by all the road construction. It is home to a lot of creatures. Additionally, the forest is providing functions as an urban forest, mitigating air pollution, noise and wind for the residential development uphill. Vermont currently places zero value on this type of forest.

80. Another example is in another urban area where a forest is currently being cleared on a 56 acre parcel. In this case, ANR's deer biologist said there is no deer browsing, while VCE's wildlife expert says it is the most heavily browsed site he's ever seen. A hunter shot a buck in that forest during the last hunting season.

81. Vermont has no mechanism in place for addressing urban forests that are providing real benefits to the environment and the people who live in the area.

82. The issue of clearing forests for solar must be dealt with. Why do I make that statement? Because Act 174's enhanced energy planning is resulting in the production of maps that are being given to towns to help them plan for renewable energy.

Just this week, one town's draft energy plan came to my attention, and is especially useful in making my point. The draft plan says that everything identified as "Prime" in light green on the solar resource map should be considered by the PUC to be "preferred," and that by joint letter of the town's Select Board and Planning Commission, the areas in orange with "constraints" can also be considered "preferred".

83. To evaluate what that means, I overlaid the solar resource map on Google Earth and turned down the opacity. Nearly every site shown in light green turns out to be forested, with only a couple of fields.

84. 85. 86. Here are some close ups of three different areas for examples. There are more.

Vermont's forests have value, so much so that The Nature Conservancy and Vermont Land Trust are monetizing those values and entering into agreements with landowners regarding management of forested parcels so that the climate change attributes can be sold to California to offset that state's carbon emissions.

87. This legislature has embarked on a timely effort to update the state's land use law. Housing, ski areas, pits and quarries and commercial development are now joined by major environmental impacts from renewable energy development. As implemented by the PUC via a legalistic process that allows ANR to enter into MOUs with applicants outside of any public process, the result has become a bad joke to those of us who care about protecting Vermont's environment. Any discussion about updating Act 250 must address the types of environmental impacts I have identified for you today.

I also have some specific comments on the committee's draft legislation:

Specific Comments on Draft Legislation

(dr req 19-0040 – draft 5.2) 1/23/2019 - EMC – 3:43 PM

p. 13 Board appointment process: Please use the judicial nominating board process. Act 250 has become the place where governors appoint their political supporters. It is imperative that the new Board is distanced from political influence. Also, the language should be revised to delete the words “shall be sought to have experience” To “shall have experience”.

p. 28 Thank you for eliminating the slate quarry exemption, if that is what you are doing. The way it is written is so confusing it is not clear that is what the bill does. VCE suggests adding language that clearly states that “all slate quarries currently in operation are required to file for an Act 250 permit by January 1, 2020 and that no quarry not yet operational shall commence any operations or improvements without first seeking and then receiving an Act 250 and other state and local permits required for operation; quarry owners and prospective quarry property owners shall consult with an ANR/Act 250 permit specialist to determine what permits may be required for their current or proposed operations.”

pp. 36-37 Add 2) Groundwater, Public Trust Resource
Require Public Trust Analysis.

p. 40 Mitigation does not work.

p. 50 § 6094. MITIGATION OF FOREST BLOCKS AND CONNECTING HABITAT
Based on experience with Deerfield Wind, and the Carrara Quarry (first mitigation of wildlife in Act 250) -- VCE strongly opposes this provision. Mitigation does not work, and results in the destruction of critical habitat.

Until and unless a statute is written which states that irreplaceable resources shall have their permit requests DENIED, language such as in this bill just creates yet another mechanism for developing our last remaining and irreplaceable natural resources and wildlife habitat. The precautionary principle needs to be written into this bill where critical core forests and habitat are threatened with permanent damage. The burden needs to be placed upon the developer to PROVE that their project will have no impact on the resource.

p. 78 Development Cabinet – 4. Add “meetings shall be warned and open to the public.”

Because of the challenges we have experienced with ANR and other state agencies, we recommend including Citizens Suits in this legislation. We also see the need for a requirement to address cumulative impacts.

Thank you for hearing my testimony. Questions?