

STATE OF NEW HAMPSHIRE

BEFORE THE SITE EVALUATION COMMITTEE

Docket No. SEC 2015-02

APPLICATION OF ANTRIM WIND ENERGY, LLC
FOR A CERTIFICATE OF SITE AND FACILITY

**SUPPLEMENTAL PREFILED DIRECT TESTIMONY OF DANA VALLEAU AND
ADAM GRAVEL ON BEHALF OF ANTRIM WIND ENERGY, LLC**

1 **Q. Have you read the Pre-Filed Testimony of Geoffrey Jones and others that**
2 **discuss concerns about habitat fragmentation?**

3 A. Yes, we have reviewed the Pre-Filed Testimony of Geoffrey Jones and Carol
4 Foss.

5 **Q. Do you agree that the construction and operation of the Project will result in**
6 **habitat fragmentation that may be harmful to wildlife or other ecological values?**

7 A. No, we do not.

8 **Q. Please explain the basis for your disagreement:**

9 A. First, we note that in the Fall of 2012, a Subcommittee for the State of New
10 Hampshire Site Evaluation Committee (the “Subcommittee”) heard eleven days of evidentiary
11 hearings for the proposed Antrim Wind Project. These hearings included prefiled testimony that
12 addressed potential fragmentation effects of the Antrim Project, as it was then proposed. The
13 Subcommittee concluded, “No party has suggested that wildlife, other than avian species and
14 bats, will be harmed or killed as a result of the siting, construction and operation of the Facility.
15 However, the parties do disagree with respect to whether the Project will cause habitat
16 fragmentation that will affect the wildlife population in the project area. The Subcommittee
17 concluded that the Facility will not have an unreasonable adverse effect on wildlife.” NH SEC,
18 Docket 2012-02, Order Denying Certificate, page 63. Specifically with respect to fragmentation,
19 the Subcommittee further found that “Regarding habitat, while Ms. Morse provided testimony
20 regarding the potential impacts of habitat fragmentation on various species of wildlife, her
21 testimony did not lead to a conclusion that the proposed Facility would, in fact, constitute
22 ‘habitat fragmentation’ of a degree that would have any impact in the Project area. In this regard,
23 the Subcommittee finds the testimony of Mr. Valteau and Mr. Gravel to be better grounded in

1 accepted science and more relevant to the Project area in question.” NH SEC, Docket 2012-02,
2 Order Denying Certificate, pages 63-64.

3 **Q. Has anything changed since the 2012 docket that would cause you to change**
4 **the testimony that you submitted at that time on this issue or alter your conclusions with**
5 **respect to habitat fragmentation?**

6 A. No, the basis of our testimony has not changed and our conclusions remain the
7 same – that the construction of the Antrim Wind Project will not result in any significant habitat
8 fragmentation or adverse impacts to wildlife. Since the 2012 hearings, the footprint and all
9 associated impacts from the construction and operation of the Project have been reduced. The
10 current Project is proposed to include 9 rather than the originally proposed 10 turbines. The
11 disturbed area required for construction and operation will be smaller and the proposed road
12 lengths would be shorter. These changes will further reduce potential habitat fragmentation
13 effects and reinforce our conclusions from the 2012 Docket.

14 Under the layout reviewed during the 2012 evidentiary hearings, the project would have
15 resulted in the initial disturbance of 63 acres during construction. The current Project layout
16 would result in the initial disturbance of approximately 57.6 acres. After construction of the nine
17 turbines is complete, approximately 46.2 acres of those disturbed by initial construction will be
18 restored. Ultimately, the final Project, including the maintained roads, electrical infrastructure
19 and turbine pad footprint, will total 11.4 acres.

20 As we noted in 2012, the Project is located within an un-fragmented habitat block that is
21 approximately 12,994 acres in size (source: NH GRANIT, Wildlife Action Plan, Unfrag block
22 layer, 2010). Although this area, like many other areas throughout New Hampshire, contains Tier
23 1 and Tier 2 habitat as identified in the New Hampshire Wildlife Action Plan (“NH WAP”), the

1 Project would occupy a very small portion of the landscape and will have minimal impacts on
2 these habitat types. The NH WAP was updated in 2015, including revisions to habitat mapping.
3 Based on the updated habitat mapping the Project will impact only 17.8 acres of Tier 1 habitat
4 and 16.2 acres of Tier 2 habitat. For reference, there are 4,279 acres of Tier 1 habitat in Antrim
5 and 1,389,811 acres in New Hampshire. The project will only impact ~ 0.42% of the Tier 1
6 habitat in Antrim and ~ 0.0013% of the Tier 1 habitat in New Hampshire.

7 While there will be some degree of disruption to the forested landscape, the narrow
8 footprint of the development represents a small incision into a large block of habitat and will not
9 create any islands of isolated habitat. A fragmented habitat can be defined as an "island" of
10 suitable habitat that is cut off by and surrounded by an expanse of unsuitable habitat. This
11 concept was first described by E.O. Wilson and R.H. MacArthur in "The Theory of Island
12 Biogeography" (1967), and can be applied not only to islands in water bodies, but also to
13 mountain tops and other physically isolated areas of habitat. The narrow and discontinuous
14 footprint of the Project does not create an "island" of isolated habitat and is, by the above
15 definition, not significant habitat fragmentation. This is especially evident when viewed in
16 context with the scale of the habitat block and what remains after the proposed Project is
17 constructed. A map illustrating the Project footprint in relation to the surrounding habitat and the
18 New Hampshire Ranked Wildlife Habitat is submitted herewith as Attachment DV&AJG-1.

19 Disturbance caused by vehicle use of roads will be very limited, as it will be restricted to
20 operations personnel. Road footprints are narrow enough that there will still be ample
21 opportunity for wildlife to traverse the area unimpeded, similar to gravel logging roads. The
22 wildlife species that are found in the Project area are considered generalists and are found in

1 many different habitat types. These species will neither be isolated within or excluded from the
2 Project area.

3 Other conservation stakeholders in this region agree with our assessment. In a letter
4 dated April 8, 2016, and submitted into the record, The Nature Conservancy in New Hampshire
5 (“TNC”), which owns and manages two significant conservation properties totaling 2,500 acres
6 in close proximity to the Project area, concluded that, based on their reviews, “it does not appear
7 that the proposed project is likely to have a significant impact on regional connectivity.”

8 **Q. Has anything changed with respect to the environmental benefits associated**
9 **with the Project that should be considered in this context?**

10 A. First, we want to make clear that this Project does not create any environmental
11 impacts that would require mitigation in any form, whether related to habitat, wetlands, or
12 wildlife. Having said that, the conservation benefits that are an integral part of the Project, have
13 been significantly enhanced. The Project will permanently protect 908 acres of adjacent land
14 through conservation easements, a substantial increase from the 2012 Docket and this land is
15 also now all contiguous and encompasses 100% of the ridgeline, which it previously did not. In
16 addition, Antrim Wind Energy LLC has entered into Land Conservation Funding Agreement
17 with the New England Forestry Foundation (“NEFF”), whereby AWE will fund \$100,000.00 to
18 NEFF to acquire additional conservation lands in the region for the enhancement and
19 maintenance of the region’s aesthetic character, wildlife habitat, working landscape, and public
20 use and enjoyment. Within the onsite conservation easements alone, AWE will permanently
21 conserve 602 acres of Tier 1 habitat and 192 acres of Tier 2 habitat. That means that the Project
22 will permanently conserve over 34 times as much Tier 1 habitat and 12 times as much Tier 2

1 habitat as it impacts. These increases in on and off site permanent forest protection bring
2 significant additional wildlife and conservation benefits to the region.

3 **Q. Has AWE made any other changes to its Application since the 2012 docket**
4 **that relate to this issue?**

5 A. Yes. In the Subcommittee's order dated April 25, 2013 (NH SEC, Docket No.
6 2012-01), five conditions were identified as required so that the project would not have
7 unreasonable adverse effect to the natural environment. The conditions were as follows:

- 8 • The Applicant must complete 3 years of avian and bat post-construction studies in
9 addition to implementation of all of the provisions of the avian and bat protection plan as
10 amended, including adaptive management and phased construction.
- 11 • During construction of the Facility, logging operations shall be limited to periods of time
12 when the ground is frozen or dry.
- 13 • The Applicant must use New Hampshire licensed foresters who will apply best
14 management and forestry practices such as those contained in the publication Good
15 Forestry in the Granite State for all of its logging and forestry operations.
- 16 • The Applicant's plan to curtail invasive species shall be extended to the post-construction
17 period, as well as the construction period.
- 18 • The conditions contained in the October 26, 2012 letter from the New Hampshire Fish &
19 Game Department to counsel f or the Subcommittee should be adopted part of the avian
20 and bat protection plan.

21 All of these conditions have been adopted in the Project's revised Application and Bird
22 and Bat Conservation Strategy (formerly the avian and bat protection plan).

1 **Q. Can you elaborate on what AWE has done to address invasive species**
2 **management during the post construction period?**

3 A. Yes. One of the conditions was that “the Applicant’s plan to curtail invasive
4 species shall be extended to the post-construction period, as well as the construction period.” The
5 current Application notes that AWE will agree to extend its invasive species management
6 activities to the post construction period. Since filing its Application, AWE has engaged Stantec
7 to develop an Invasive Species Management Plan (“ISMP”) that addresses procedures for
8 managing invasive plant species within the Project area (See Attachment DV&AJG-2). The
9 ISMP meets both the purpose of the New Hampshire Department of Agriculture’s Chapter Agr
10 3800, Invasive Species, and U.S. Army Corps of Engineers’ Invasive Species Policy as well as to
11 preserve and enhance the functions and values of the wetlands and uplands within the Project
12 area. Invasive species monitoring within the Project area will be initiated in the first full calendar
13 year following the completion of Project construction and will continue for two additional years,
14 for a total of three years. The monitoring will consist of field surveys of the Project area to
15 determine whether invasive species are present and to provide recommendations concerning
16 control options. Particular treatment methods will be focused on preserving and enhancing the
17 habitat characteristics of the wetlands and uplands in the project area.

18 **Q. Has New Hampshire Fish & Game Dept. raised any concerns about the**
19 **Project’s impacts on wildlife or with respect to habitat fragmentation?**

20 A. AWE has consulted with New Hampshire Fish & Game (“NHFG”) since the
21 beginning of its wildlife studies for this project. In the 2012 Docket, NHFG requested several
22 conditions to be included in a Certificate should the Subcommittee issue one. AWE has included
23 all of those requested conditions in its 2015 Application. In 2016 NHFG requested AWE

1 provide it with an assessment of potential impacts for three species of potential concern: The
2 Ebony Boghaunter, Wood Turtle and the Marsh Wren. AWE provided NHFG with its
3 assessment of potential impacts to those three species and in a letter dated July 1, 2016, NHFG
4 concurred with AWE's assessment, stating that "the project will not likely have any adverse
5 impact on these identified species." NHFG did request that AWE conduct monitoring for wood
6 turtle movement during construction and AWE has agreed to do so. NHFG has not identified
7 any other wildlife concerns in this docket.

8 **Q. Do you have any comments about Ms. Foss's concerns with respect to**
9 **potential impacts to bobcats, porcupines and snakes?**

10 A. Please see our response to the previous question, which addresses the SEC
11 findings with respect to wildlife impacts and the limited issues raised by NHFG. We do not
12 agree with Ms. Foss about potential impacts to bobcats, porcupines and snakes.

13 **Q. Based on your professional experience, including your work on this Project**
14 **over the past 5+ years, and considering the testimony submitted by other parties in this**
15 **Docket, do you believe that the Project will create any significant habitat fragmentation**
16 **effects or create risks to wildlife or other ecological values?**

17 A. No, we do not. The area altered by the Project is a small component of a large
18 forested habitat block. The impacts will not isolate habitats nor prevent the movement of wildlife
19 species across the Project. Potential fragmentation effects including the introduction and spread
20 of invasive plant species associated with the Project will be limited. In addition, the ISMP will
21 monitor invasive plant species and help maintain the existing natural communities. Finally,
22 several large parcels of land will be conserved as part of the project, providing for protection to
23 908 acres of habitat that will not be developed. This habitat conservation effort, coming directly

1 from the Project, will ensure that a significant portion of this habitat block will remain intact.

2 The Committee found that the Project would not have unreasonable adverse effects on wildlife or
3 result in significant fragmentation in 2012 and since that time impacts associated with the Project
4 have been reduced.

5 **Q. Does this conclude your testimony?**

6 **A.** Yes it does.