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July 31, 2012

Ms. Jane Murray, Secretary  
New Hampshire Site Evaluation Committee  
New Hampshire Department of Environmental Services  
P.O. Box 95  
29 Hazen Drive  
Concord, NH 03302-0095

Re: Docket No. 2012-001 Application of Antrim Wind Energy, LLC for a Certificate of Site  
and Facility for a Renewable Energy Facility

Dear Murray:

Enclosed please find for filing electronically in this matter the written testimony of the following  
witnesses testifying on behalf of the Audubon Society of New Hampshire, together with the  
attachments referenced therein:

1. Frances Von Mertens
2. Paul Nickerson
3. Carol Foss
4. Phil Brown

The original and nine copies this testimony will be hand-delivered to your office for filing later  
today if time permits and otherwise early tomorrow morning.

Very truly yours,



David M. Howe

Cc: Service List

Enc.

THE STATE OF NEW HAMPSHIRE  
SITE EVALUATION COMMITTEE  
DOCKET NO. 2012 – 01  
APPLICATION OF ANTRIM WIND ENERGY, LLC  
PRE-FILED TESTIMONY OF PHILIP BROWN  
ON BEHALF OF THE AUDUBON SOCIETY OF NEW HAMPSHIRE

July 31, 2012

**Qualifications of Phillip Brown**

**Q. Please state your name and business address.**

A. My name is Phillip Brown, and my business address is 84 Silk Farm Road, Concord, NH 03301.

**Q. Who is your current employer and what position do you hold?**

A. I am employed by the Audubon Society of New Hampshire (ASNH), and I hold the position of Director of Land Management.

**Q. Please summarize your educational and professional background and experience.**

A. I have a Bachelor's of Science degree in Natural Resource Management from Rutgers University, and I am working towards completing a Master's of Science degree in Conservation Biology from Antioch New England University. I have worked in the field of natural resources and conservation since 2002.

**Q. Please describe your current employment responsibilities.**

A. I direct land conservation and management activities for ASNH statewide properties, including conservation easement monitoring. This includes land management activities such as forestry activities and wildlife monitoring programs, as well as educational programming and public access and visitor services.

**Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to describe the recreational and ecological features of the dePierrefeu Willard Pond Wildlife Sanctuary and the important opportunities that the Sanctuary provides to visitors who wish to enjoy the natural environment. I also describe another important conservation property, the French Conservation Easement, or 'Rockland Forest', that is protected through a conservation easement held by ASNH abutting the Sanctuary and the proposed project of Antrim Wind Energy, LLC.

**Q. How are you familiar with the dePierrefeu Willard Pond Wildlife Sanctuary?**

A. My familiarity with the Sanctuary dates to 2004 and has become very strong through managing the property for the past eight years. As the sole stewardship staff person for ASNH over this time, I have worked with volunteers, both through direct involvement and through close communication, in the provision and maintenance of public access and recreation opportunities, and through wildlife management work at the Sanctuary. In addition, for the course of one full year between the fall of 2010 and the fall of 2011, I resided in an ASNH-owned building near the end of Willard Pond Road on Sanctuary land. Here, I served as the day-to-day caretaker, in addition to maintaining my statewide role as the Director of Land Management. Through this daily role caring for the land, including the trails and public access points, I became intricately familiar with the Sanctuary, its natural and ecological features, and its user group. During this time, I led about 10 public field trips to the sanctuary attended by well over 100 individuals and

explored many of the natural features and recreational attractions of the Sanctuary including raptor and bat observation trips, tracking, forestry and beaver life history.

**dePierrefeu Willard Pond Wildlife Sanctuary**

**Q. What is the significance of the dePierrefeu-Willard Pond Wildlife Sanctuary?**

A. At roughly 1,671 acres, the dePierrefeu-Willard Pond Wildlife Sanctuary (the Sanctuary) in Antrim and Hancock is New Hampshire Audubon's (ASNH) largest property, and is about twice as large as the organization's second largest holding. For this, and for many other reasons, it is considered by many to be ASNH's most significant wildlife sanctuary. A pristine pond that is rich with fish and wildlife, several high-elevation summits with red spruce and other limited natural communities, premier aesthetical values and scenic resources from various vantage points, a wilderness-type experience from many parts of its land mass, and a true sanctuary for wildlife and people in the heart of an unfragmented 'Supersanctuary' of protected land are some of the other reasons for this Sanctuary's importance to the many individuals who value this place. The Sanctuary (and surrounding Supersanctuary) is also significant within New England in that it lies at the heart of a multiple-state and partner land conservation focus area known as the Quabbin-to-Cardigan Collaborative (Q2C). Within this broad focal region of the Monadnock Highlands, the Supersanctuary is among the two largest forested blocks.

**Q. Please provide some information about the features and use of the Sanctuary.**

A. The Sanctuary, though privately held, is free and open to the public year round. There are several outstanding and varied features of the dePierrefeu Willard Pond Wildlife Sanctuary that make it a particularly interesting place to visit. First is Willard Pond itself, by all measures a beautiful and relatively pristine body of water free of surrounding development. The pond is 96 acres in size and is very likely the most heavily-used location within the Sanctuary's boundaries (the State of New Hampshire owns the water body itself). Scenic vistas of Bald Mountain, Goodhue Hill, and parts of Robb and Willard Mountains, which immediately surround the pond, can be enjoyed from the Willard Pond 'basin'. A paddle across the pond gives visitors a sense of wilderness as they explore the undeveloped shoreline and appreciate the unfragmented skyline.

Fly-fishing, kayaking and canoeing, swimming, and wildlife observation are some of the recreational highlights of visitors' experiences on Willard Pond. From April through October, fly-fishing is very popular and an important economic and recreational use of the pond. On opening day of fly-fishing season in 2011, the large parking lot was packed with vehicles by 6:30 am, and fishermen were lined up to launch boats despite freezing temperatures and falling snow. A stiff wind and slightly warmer temperatures met the opening day crowd in 2012, where I was on hand at the boat launch to meet and greet fishermen and educate them about ASNH's role in the landscape they use. Many of the fishermen I spoke to that morning expressed their unsolicited opinions of how the proposed wind facility would negatively affect their fishing experience here. It is safe to say that many of the fly-fishermen who choose to partake in this activity on Willard Pond

are attracted to the area because of its scenic beauty and pristine quality. The same can be said for the countless paddlers who enjoy the pond as long as the ice is out. When ice and snow covers the pond, activities such as snowshoeing and cross-country skiing are popular draws. Flat terrain and expansive, wild views are why. In February of 2011, an ASNH-led full moon snowshoe trip to the pond and sanctuary drew 32 participants. Over the course of a year, hundreds more accompany ASNH staff and volunteers on field trips throughout the sanctuary and on the pond.

**Q. Please describe some of the natural features of the Sanctuary.**

A. The Sanctuary encloses Willard Pond completely, with the exception of a small boat launch area managed by New Hampshire Department of Fish and Game. The Sanctuary's terrain features sizeable hills, several of which include Antrim's highest summit, Bald Mountain, and another lesser-known, but familiar visual landmark, Goodhue Hill. Both of these locations have trails to their respective summits and provide scenic vistas, including views of the ridgelines and summits between Tuttle Hill and Willard Mountain.

The dePierrefeu-Willard Pond Wildlife Sanctuary ranges from about 1160 feet to 2084 feet in elevation. The terrain is variable, and contains steep to gradual slope, summits, and low-lying level areas. Ledge outcrops occur near the summit of Bald Mountain and Goodhue Hill, and granite boulders of all shapes and sizes are common throughout the property but are especially numerous on the eastern face of Bald Mountain. Huge boulders deposited by receding glaciers, a diverse mixture of tree and plant species,

scenic vistas, and an abundance of wildlife and recreational opportunities make this sanctuary a unique and attractive area to both area residents and visitors from further afield.

The Sanctuary protects not only the ecological aspects of this land, including the abundant wildlife, water, and ecological integrity, but also considerable aesthetic values. A trail system of over seven miles allows visitors to explore many parts of this sanctuary through such low-impact, recreational uses as wildlife observation, hiking, snowshoeing, and cross-country skiing. In addition, other traditional uses such as hunting are permitted on the 'Tamposi parcel' – a 376-acre portion of the Sanctuary that includes a southern summit of Bald Mountain. An old logging road and relatively newly-created foot trail provide foot access to and around this parcel, on which a conservation easement is held by the State of New Hampshire.

### **Plants**

**Q. Please describe the plants and wetlands found in the Sanctuary.**

A. A botanical inventory completed in 2003 documented well over 100 species of plants on the property. A variety of forested communities dominate the landscape, and efforts to create and create and protect forest openings are also underway through forest management and other wildlife conservation practices, as a component of the long-term management planning aspects of the property. A number of wetland types exist in the Sanctuary and add to the overall ecological diversity protected within ASNH's boundaries. Among them is the 3-acre Hatch Mill Pond directly downstream from Willard Pond, which has a short trail surrounding its shoreline. In addition, there are

numerous streams and brooks, some of which contain trout, as well as beaver flowages, open water impoundments, and vernal pools throughout many parts of the Sanctuary.

**Wildlife**

**Q. Please describe the wildlife that is present at the Sanctuary.**

A. The NH Wildlife Action Plan ranks much of the Sanctuary as the 'highest ranked habitat in New Hampshire' and 'highest ranked habitat in the biological region'.

Birdlife has been well documented over the years at the sanctuary. From my own casual observations of just one year within the Sanctuary (2011), over 100 species were documented. One species, Common Loon, is a state-threatened bird species and is a documented breeding bird that nests almost annually on Willard Pond. The species has been studied here since 1975 by the Loon Preservation Committee (LPC). Results from annual observations indicate the breeding success rate is 0.40 chicks per pair over the past 10 years, but has risen to 0.60 chicks per pair over the last five years. This recent average is consistent with other active territories in the Monadnock Region, and LPC has ranked Willard Pond as having 'highly suitable' loon habitat.

A Bald Eagle pair breeds a few miles away at Nubanusit Lake, and individuals are frequently observed utilizing Willard Pond for feeding opportunities. This species has also been documented from high-elevation outcroppings utilizing hilltops and ridgelines within the Sanctuary during spring and fall migrations. Ospreys are also seen often feeding and resting along the shorelines of Willard Pond, as well as during migrations from high-elevation outcroppings. A number of other migrating raptor species have also been observed both casually and through using fixed monitoring counts from Bald

Mountain. In addition to raptors, a large number of migratory songbirds are thought to breed within the Sanctuary.

The presence of mammals has been well documented on the sanctuary over the years. Most notably, a recent (2008) study documented sign of Moose, Fisher, Bobcat, Coyote, and both Red and Gray Fox, among other mammal species. Tracks and photographic evidence were collected during this winter survey, and usage of different parts of the sanctuary by each mammal species was compared. In addition, the New Hampshire Fish and Game Department has just begun what promises to be a long-term banding research project on a population of Little Brown Bats that inhabits an ASNH structure close to Willard Pond. This species is declining precipitously from much of its range and is of special concern to biologists.

**Willard Pond Watershed**

**Q. Is the Applicant's project area within the watershed of Willard Pond?**

A. Most of the project area is along the intersection of two HUC 12 watersheds: Great Brook-Antrim Tributaries to the east, and Franklin Pierce Lake to the west; the proposed location for Turbine 10 is at or very near their intersection with the Powdermill Pond watershed, which drains to the south, directly into Willard Pond. (See Attachments PB-1 and PB-2)

**Q. How can the proposed project avoid risks to the water quality of Willard Pond?**

A. The placement of turbine 10 with respect to the on-the-ground boundaries between these watersheds will determine the direction in which runoff from the turbine pad and associated roads will flow. Avoiding vegetation removal and land disturbance

within the Powder Mill Pond watershed will eliminate risks from the project to the water quality of Willard Pond.

**Aesthetics**

**Q. Please describe the role of aesthetics in the management of the Sanctuary.**

A. Aesthetics is an important consideration that has guided ASNH's management activity at the Sanctuary since the beginning of its ownership. Several years ago, ASNH removed an abandoned building near the shoreline in part to restore a natural appearance, and it is working towards removing another structure in the near future. The Forest Management Plan that was completed in 2006 by an independent forestry consultant, Meadowsend Timber, LLC, stresses that the aesthetic and visual quality of the dePierrefeu Willard Pond Wildlife Sanctuary is very important to ASNH and is considered in all management activities. Two such recommendation are that roads and trails should be designed so that they are pleasing to the eye and fit into the natural landscape, and that proper cleanup of log landing areas is very important, as debris left from logging operations can be very unsightly. ASNH is currently in the process of completing a multiple-year timber harvest on over 100 acres of forestland on Goodhue Hill. The Natural Resources Conservation Service (NRCS) has chosen to fund operations within this management cycle because of several factors, including how ASNH might be able to demonstrate wildlife habitat enhancement and other forest management practices to the public on this property. Viewshed aesthetics are considered during trail layout and construction, and several important vantage points within the Sanctuary have long been maintained for their broad views of the natural landscape that is consistent with the

mission of ASNH as it relates to humans. Probably the most important of these views to the general public is from the first ledge on Bald Mountain near the junction of the Tamposi and Bald Mountain Trails.

**Bald Mountain**

**Q. Please describe Bald Mountain.**

A. Bald Mountain is likely the most popular high-elevation hike at the Willard Pond Wildlife Sanctuary. It is accessed by trails coming up it from either side, and this can be made into a longer loop hike. Along the 1.75-mile Tamposi Trail are various access points to the Bald Mountain ledges, the most popular of which is located where this trail meets the end of the Bald Mountain Trail. From here, one can climb several hundred feet higher to two more vantage points of the sanctuary and surrounding region before reaching the sanctuary's highest point, 2,084 feet, at the viewless summit. This trail is ASNH's longest and may well be the most popular hiking trail at Willard Pond, which is listed in at least one guide book as a recommended easy hike in the Monadnock Region. The Bald Mountain Trail, accessed via the Tudor Trail, is the steepest access point to the Bald Mountain ledges (best viewpoint of Willard Pond below and to the north of Tuttle Hill-Willard Mountain ridgelines). Near its junction with the Tudor Trail, an impressive ledge of boulders deposited by receding glaciers can be seen. The hike to the ledges is well worthwhile for its spectacular and nearly-complete view of Willard Pond and close views of many high-elevation summits of the Monadnock Region, including the majority of the Tuttle Hill ridgeline to Willard Mountain. Further in the distance, the entire Wapack Ridge, including Pack and North Pack Monadnock Mountains, are in view, as

are Mt. Kearsarge and several summits in the White Mountains, including Mt.

Washington – which is most often seen on very clear days from fall through spring. As a result, this is a favorite picnic location of many hikers and probably the most popular vantage point on Bald Mountain. It is also an excellent place to observe raptor migration in the fall. Numbers of migratory raptors counted on at least one occasion in late September of 2011 indicate this location's productivity for migrating raptors may compare to that of ASNH's raptor observatory at Pack Monadnock Mountain.

**Goodhue Hill**

**Q. Please describe Goodhue Hill.**

A. Goodhue Hill sits above Willard Pond's southeastern shore and is a prominent feature of the sanctuary. A mile-long hiking trail is a steady, but in some places, steep, climb to a newly-cleared 16-acre clearcut close to the summit. This forestry operation consisted of whole-tree chipping and was completed in the winter of 2012 to reclaim part of a formerly pastured summit. The primary motivations for the extent of this clearing were to regenerate early successional forest for wildlife species of concern, as well as to provide scenic vistas to hikers. Exceptional care was taken in creating this opening to abide by best management practices, including the minimization of soil disturbance, as well as in the retention of wildlife features like old apple trees and blueberry shrubs, and the creation of an aesthetically-pleasing opening, bound by stone walls. From the remaining old pasture area, which will be continuously managed as an open clearing, views of the Tuttle Hill to Willard Mountain ridges dominate the northern horizon. Further in the distance lies Mts. Kearsarge and Cardigan, as well as the hills around Lowe

State Forest. To the south and west, there are exceptional views of distant Mt.

Monadnock behind the much closer Mts. Skatutakee and Thumb in Hancock, as well as some of the higher hills of Nelson and surrounding towns. A currently discontinued trail has moderate views to the south and east, but trees have grown in, and there are plans in place to reclaim this view and continue the trail to its end here at a rocky outcropping.

The new forest clearcut near the summit of Goodhue Hill, and other nearby small openings, or patches, between the trail and an access road are being managed to provide food and cover for many mammal and bird species that the sanctuary is home to. Among them are mammals such as Moose, Bobcat, and Snowshoe Hare, as well as birds such as Ruffed Grouse, American Woodcock, American Kestrel, Eastern Bluebird, and a variety of declining species of songbirds.

**French Conservation Easement – aka ‘Rockland Forest’**

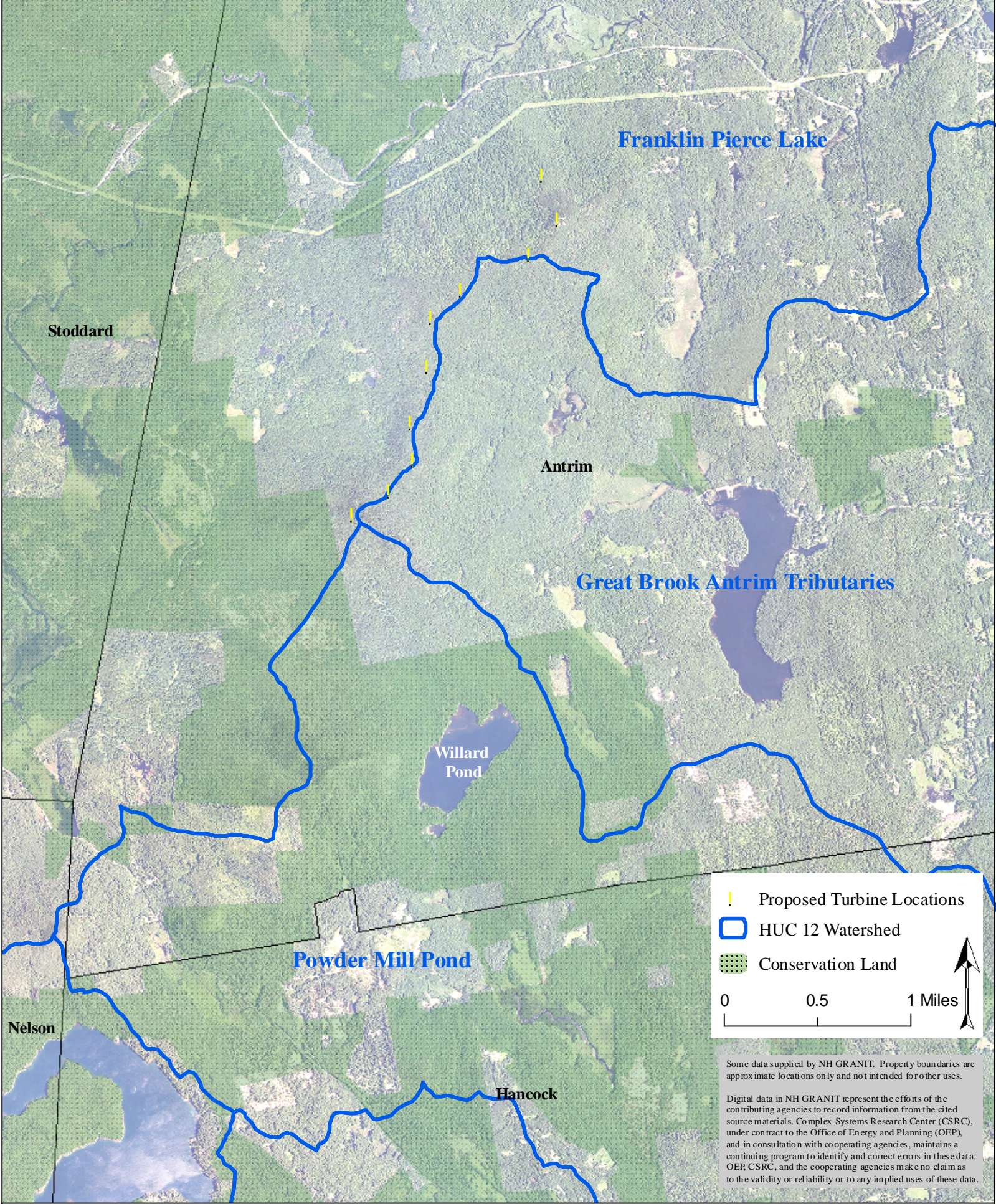
**Q. Please describe the French Conservation Easement**

A. The French Conservation Easement (French CE) is an 887-acre forested parcel owned by the Ecosystem Management Company and held under conservation easement by ASNH. The French CE abuts the Sanctuary to the North and West and the project area to the West. This ownership contains the summit and land associated with Robb Mountain. It is an actively managed ownership that provides public access along a gated road that stretches from Salmon Brook Road in Antrim to Robb Reservoir in Stoddard. Hunting, hiking, and other traditional, low-impact uses are permitted on the property. This road contains ample views of Willard Mountain and Robb Mountain. Robb Mountain, though probably much less traveled than any summits within the Sanctuary, is

accessed via a forestry access road and has some unobstructed views of Willard Mountain and surrounding summits. Evidence of moose and other wide-ranging mammal species are frequently encountered during my annual conservation easement monitoring visits to the French CE.

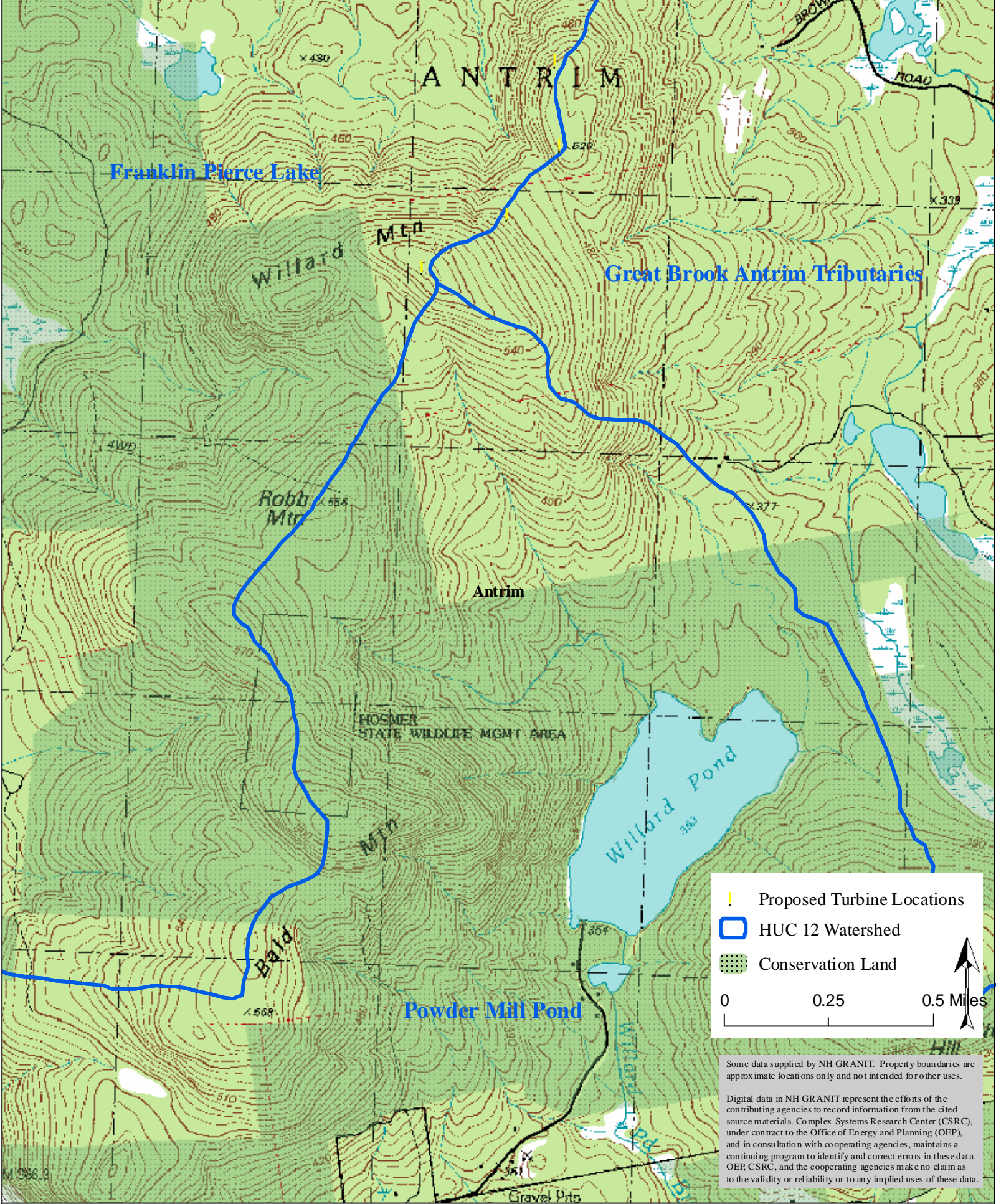
Attachment PB-1      HUC 12 Watersheds near the proposed Antrim    Wind Energy  
(AWE) project in Antrim, NH

Attachment PB-2      Location of proposed turbine 10 relative to Powder Mill Pond  
watershed boundary



Attachment PB-1: HUC 12 Watersheds near the proposed  
Antrim Wind Energy (AWE) project in Antrim, NH.

Map created by NH Audubon  
July 2012  
2009 NAIP Aerial Imagery



! Proposed Turbine Locations

Blue outline HUC 12 Watershed

Green grid Conservation Land

0 0.25 0.5 Miles

Some data supplied by NH GRANIT. Property boundaries are approximate locations only and not intended for other uses.

Digital data in NH GRANIT represent the efforts of the contributing agencies to record information from the cited source materials. Complex Systems Research Center (CSRC), under contract to the Office of Energy and Planning (OEP), and in consultation with cooperating agencies, maintains a continuing program to identify and correct errors in this data. OEP, CSRC, and the cooperating agencies make no claim as to the validity or reliability or to any implied uses of these data.



Attachment PB-2: Location of proposed turbine 10 relative to Powder Mill Pond watershed boundary.