



October 4, 2013

Dan Courtemanch
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333

Subject: Bingham Wind Project, Response to Preliminary Review Comments from Maine Audubon

Dear Dan:

Thank you for providing preliminary review comments from Maine Audubon regarding the Bingham Wind Project Site Law application. We have followed up with Maine Audubon staff to confirm that we understand their comments and believe that we have addressed their concerns. For your reference, we have provided a response to their comments in this letter. The original text of the Maine Audubon letter is in *italics* and our response is indented in black.

Impacts to water quality and flow

Given the significance of the cold water resource including habitat for Atlantic salmon, Brook trout and Northern spring salamanders, it's critical that stormwater and stream crossings be managed in such a way as to ensure no undue adverse impact to the water quality, water quantity, aquatic species movement, and temperature of existing surface waters in the project area. We strongly recommend that the applicant amend its application to improve the existing stream crossings and the new stream crossings using Stream Smart practices. These include: span the stream, set the elevation right, match the elevation to the slope of the streambed, and ensure there is natural substrate in the bottom of the crossing. We also urge the applicant to improve the existing stream crossings along the ATV trail near the most southerly string of turbines. We understand this will involve some in-stream work but believe the short-term disturbance now to correct poorly functioning road-stream crossings will provide long-term benefits that are critical to the success of the project.

In addition, we ask that the application be amended to make clear that cutting within the buffers of Atlantic salmon and Northern spring salamander habitat needs to be minimized. Such cutting should not remove all capable vegetation during initial construction or during regular maintenance. Instead, the applicant should cut only those trees that will actually grow to a height during the next 3-4 years that will create a hazard to the lines. It's our understanding that this is the applicant's intent but we would prefer that it is made clear in any permit. Trees provide better shade than shrubs. Shade is important to maintaining cold stream temperatures and fallen leaves provide nutrients into the stream for the basis of the food web. Shrubs are not as effective as trees in intercepting and holding water.

1. The proposed project does not include constructing any new stream crossings and does not include any in-stream work. The project was carefully designed to ensure direct impacts to streams were avoided. Therefore, the recommendations to amend the application to reflect "StreamSmart" practices are not applicable because there are no new stream crossings. However, based on consultation with MDIFW, there are two wetland locations where we have agreed to replace a rock sandwich with an arch culvert to provide for better wildlife passage and maintain habitat connectivity, which is consistent with goals of Maine Audubon's StreamSmart initiative. The application will be amended to reflect this minor modification in project design.
2. Because existing stream crossings in the project area are sufficient for construction and operation of the project and no changes are proposed, improvements to the existing ATV trail identified by Maine Audubon are not proposed as part of this Project. However, as discussed with Audubon the applicant is open to coordinating with the landowner to upgrade the 3-4 existing fords along the ATV trail consistent with the goals of Maine Audubon's StreamSmart initiative once the project becomes operational.
3. The Application already includes initial cutting and long-term maintenance practices for protective buffers of Atlantic salmon and Northern Spring Salamander streams that are consistent with the request of Maine Audubon and have been discussed extensively with MDIFW. See Table 10-1 of the Application, which identifies buffers for the entire project (attached as Exhibit 1). Both of these buffers limit cutting and clearing to "top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut."

Northern Bog Lemming

The applicant has done a good job avoiding impacts to Northern bog lemmings and their habitat. Utilizing a 500' buffer around the wetland where the Northern bog lemming has been documented is good. Development is also downstream of that wetland. Such practices will prevent the project from interfering with the hydrology of the habitat. Field review of other wetlands by the applicant has identified no other viable potential habitat (no activity, no sedge cover, sphagnum mats). Our concerns have been adequately addressed for this species.

1. No response necessary.

Bats

There is a potential for bats to be killed at high rates at some turbine locations. Our concern is heightened by the tremendous stress/mortality that is occurring as a result of white-nose syndrome across much of the eastern U.S. and Canada, including Maine. We strongly support DIFW's recommended curtailment guidelines and we understand the applicant has agreed to abide by them. These should be included in the permit.

1. In Section 7E-2 of the Application, we voluntarily agreed to follow MDIFW's curtailment guidelines.

Bald and Golden Eagles

Although there are confirmed Bald and Golden Eagles in the area, the distance to the Bald Eagle nest is far enough to minimize any potential hazard. The known Golden Eagle in the area has been found deceased in Canada. Although there may be other Golden Eagles in the area, we believe the project is on the edge of the core area typically used in Maine by Golden Eagles, and is far enough away from their likely locations.

1. No response necessary.

Migratory Birds and Bats


According to the applicant's surveys, there appear to be high passage rates in the project area for migratory birds and bats compared with other projects, especially in the fall. In addition, the low flight heights mean that there is a higher chance of birds and bats being caught in the rotor sweep area causing direct mortality. We urge the DEP to ensure rigorous post-construction studies (including daily searches over multiple years with a lengthy search window in both spring and fall) to document mortality. If DIFW finds mortality rates to be a problem, the turbine operations should be adjusted accordingly. Also, we request that there be a permit condition directing that the applicant to use new technology and operation techniques should they become necessary. For example, there may be a way to use on-line tools like BirdCast (<http://birdcast.info/forecasts>) to predict nights of heavy migration and then curtail turbines for limited hours overnight. During these events, all or particularly problematic turbines could be stopped.

1. On September 27, 2013, we submitted a revised framework which was created in consultation with MDIFW for post-construction monitoring to MDEP and MDIFW, as well as Maine Audubon. That framework addressed the topics discussed above. This revised framework (attached as Exhibit 2) includes daily searches in both spring and fall over multiple years. In addition, technological approaches will be incorporated, such as using radar and on-site weather data to potentially identify any patterns between mortality and passage rates.

We believe these responses address Maine Audubon's preliminary comments for the proposed Bingham Wind Project and we look forward to continued positive discussions.

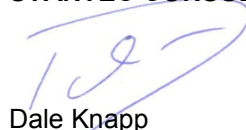
Sincerely,

FIRST WIND



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Attachments:

- Exhibit 1: Table 10-1 Summary of Buffers for Construction, Operation and Maintenance of the Bingham Wind Project
- Exhibit 2: Proposed Bingham Wind Project Post-Construction Monitoring Program – Revised, September 26, 2013

CC: Jennifer Burns Gray, Maine Audubon
Susan Gallo, Maine Audubon
Ted Koffman, Maine Audubon
Sally Stockwell, Maine Audubon
Dave Cowan, First Wind
Robert Roy, First Wind

Exhibit 1

Table 10-1 Summary of Buffers for Construction, Operation and Maintenance of the Bingham Wind Project

Table 10-1. Summary of Buffers for Construction, Operation, and Maintenance of the Bingham Wind Project

Buffer Type	Location	Buffer Width	Clearing During Construction	Cutting During Maintenance and Operation	Pole Placement	Herbicide Use
Turbine Pads, Access Roads, O&M, DRD	As noted on final design drawings	Variable buffer outside of disturbed area and as depicted on the site plans	None in the buffer area	As provided in stormwater plan	Not allowed	Not allowed
Typical Electrical Line ROW	All areas not otherwise restricted	Not applicable	Cut at ground level all vegetation that is greater than 2 inches dbh ^{1,2} ; remove or top all other vegetation that is 8-10 feet or taller	Cut at ground level all capable species that are 8-10 feet or taller; remove or top all other vegetation that is 8-10 feet or taller	Standard	Allowed
Standard Streams	All streams not otherwise restricted; 20 streams	25 feet on each side of waterbody during construction. 100-foot buffer during project operation (proposed amendment)	Cut at ground level all capable species that are 8-10 feet or taller; no other vegetation is cut; limited clearing within 100 feet of stream	Cut at ground level all species that are 8-10 feet or taller; no other vegetation is cut	Not allowed	Not allowed
Salmon Habitat Stream Buffers	ASC ³ Special Concern Salmon Habitat Streams; 28 streams	100 feet on each side of stream	Top ⁴ or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Top ⁴ or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Place as close as possible to increase height of buffer	Not Allowed
Significant Vernal Pools	As noted on final design drawings; 4 SVPs and 3 PSVPs	100 feet around the perimeter of SVPs within the ROW	Cut at ground level all capable species that are 8-10 feet or taller	Cut at ground level all capable species that are 8-10 feet or taller	Avoid and minimize impacts; no poles within vernal pool depressions	Not Allowed in any vernal pools
Inland Waterfowl and Wading Bird Habitat	As noted on final design drawings; 1 location ⁵	Within mapped habitat only	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut; if possible, 2-3 snags per 500 feet of corridor will be left to provide nesting habitat	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Avoid and minimize impacts; locate poles in upland buffer where possible	Not Allowed

Buffer Type	Location	Buffer Width	Clearing During Construction	Cutting During Maintenance and Operation	Pole Placement	Herbicide Use
Deer Wintering Areas	Moderate and High Value DWAs, as noted on final design drawings; 2 locations	Within mapped habitat only	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; near pole locations, retain conifers to the maximum extent possible	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut; increased vegetation height in four specified locations	Avoid and minimize impacts	Not Allowed
Northern Spring Salamander Stream Buffers	As noted on final design drawings; 25 streams	250 feet on each side of stream	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Place as close as possible to increase height of buffer	Not Allowed within 250 feet of streams
Bog Lemming	As noted on final design drawings; 1 location	250 feet surrounding habitat	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Top or remove all capable species that could grow to within 15 feet of a conductor in the next 3-4 years; no other vegetation is cut	Avoid and minimize impacts	Not Allowed

¹ dead or danger trees are removed at any time

² dbh = diameter at breast height

³ ASC = Atlantic Salmon Commission

⁴ Cut at ground level if topping the tree will not leave sufficient foliage to sustain the tree

⁵ This location is the only IWVH impacted by the project

⁶ Only DWAs of moderate to high value are addressed in this table

Exhibit 2

Proposed Bingham Wind Project Post-Construction
Monitoring Program – Revised, September 26, 2013



Proposed Bingham Wind Project post-Construction Monitoring Program – Revised September 26, 2013

The following framework for post-construction monitoring of the Bingham Wind Project is based on our September 24, 2013 meeting between First Wind and the Maine Department of Inland Fisheries and Wildlife. A final, detailed work plan will be developed in consultation with IFW prior to the start of post-construction monitoring, which is currently anticipated to begin in 2015. All of the components of this framework will be included in the final work plan, unless otherwise mutually agreed upon by IFW and First Wind.

The Bingham Wind Project commits to the following components of a post-construction monitoring effort at the Project:

- Three years of monitoring will occur. The first two years of survey effort will occur during the first two years of operation. The third year will be between year 3-5 and the timing and scope of those efforts will be determined after the second year of study.
- Searches for bird and bat fatalities will be conducted from April 15 (spring weather – snowpack permitting) to June 1 and September 1 to October 15 each year. This date range may shift by approximately one week in the final work plan for this survey. The final survey dates will be based on available data on fatality and bird migration timing from Bingham and other sites in the region.
- Use 120 m x 120 m plots and map all visibility classes (including ‘unsearchable’ forest cover) within the plots.
- Searcher Efficiency and Carcass Removal trials will be conducted. A target of 25 trial carcasses per visibility class will be placed in the project area for each of these two trials. Fresh native carcasses will be used for carcass removal trials, to the extent possible. The median carcass retention time will be provided.
- Twenty turbines (33% of project) will be searched during Years 1 and 2 of the survey effort.
- Turbines will be searched daily during Years 1 and 2 of the monitoring effort.
- A variety of weather and turbine operation data will be collected during each night of the survey. Weather metrics to be collected will include wind speed and direction, temperature, and barometric pressure. Nightly sky condition data (including cloud ceiling and visibility) will also be recorded. Turbine operation data will be provided by Bingham Wind.
- Statistical analysis of the data will be used to estimate the number of bird fatalities at the project. The estimation method used will be the same or similar to that used in 2008 and 2009

at the Casselman Wind Project in Pennsylvania. As this is an evolving science, the final method(s) to be used will be discussed and determined during the final work plan development and again once field data collection is complete. More than one estimation method may be used.

- Radar(s) will be used during Years 1 and 2 of the survey effort in an attempt to correlate mortality with passage rates.