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**LAND USE REGULATION COMMISSION
In the Matter of Development Permit, DP 4889
Bowers Wind Power Project**

**Testimony of Catherine B. Johnson on behalf of
the Natural Resources Council of Maine
June 27, 2011**

My name is Cathy Johnson. I am the North Woods Project Director and Senior Staff Attorney for the Natural Resources Council of Maine. I have been with NRCM for over two decades. I am here today on behalf of NRCM's 12,000 members and supporters to testify Neither For Nor Against the proposed project, but rather to provide information and comments which NRCM hopes the Commission will consider as it deliberates on this project. We appreciate the difficult but very important role you play in translating a vision of maintaining the jurisdiction into specific decisions like this one on Bowers. Thank you for your service in this work.

Summary

NRCM is a strong supporter of both protecting the scenic and recreational resources of the state and developing renewable energy as one part of a strategy to limit climate change. We believe that the combination of the recently enacted wind power law and LURC's guiding statutes indicate that the State is also committed to both of these goals.

After reviewing the proposed Bowers project, we have concluded that it is a very close call whether the proposed project meets the legal criteria regarding the effect of the proposed project on scenic character and related existing recreational uses. We agree with Jim Palmer that, based on the information available, it appears that there will be very adverse impacts on some scenic resources and related existing uses of statewide significance and adverse impacts on other scenic resources of statewide significance and related existing uses.

In determining whether the adverse impacts are "unreasonable" or "undue," it is important to consider the energy and climate benefits. It is this weighing of the adverse impacts to scenic and recreational resources against the benefits to our energy supply and climate that should lead you to the decision whether or not this project meets the criteria for approval. We are providing information we hope will be useful as you weigh these issues, but we are leaving the ultimate determination of whether the adverse effects outweigh the benefits, or not, to you.

Energy and Climate Context

It is important to remember the purpose of wind power and renewable energy generation in Maine. Maine and the region continue to be over-dependent on fossil fuels for power, a situation which is unsustainable both economically as well as environmentally. The impacts of our dependence on gas, coal and oil may be out of sight much of the time, but they are clearly harmful and unsustainable to all living things and must not be out of mind. Climate change is one of the most dramatic negative effects of continued fossil fuel use, and will cause sweeping harms to Maine's

forests, coasts, fisheries, wildlife, public health and physical infrastructure. Here are two examples of this threat to Maine:

Just this month the National Science Foundation issued a report finding “The rate of sea level rise along the U.S. Atlantic coast is greater now than at any time in the past 2,000 years—and has shown a consistent link between changes in global mean surface temperature and sea level.” Report co-author Michael Mann said the new research “points toward projected sea level rise lying at or near the upper range of current projections, more than a meter [3.3 feet] by the end of this century under business-as-usual carbon emissions.”¹

In 2002, a report entitled *Effects of Global Warming on Trout and Salmon in U.S. Streams* concluded “We find that trout and salmon habitat is indeed vulnerable to the effects of global warming. Based on emissions scenarios from the Intergovernmental Panel on Climate Change (IPCC), we estimate that individual species of trout and salmon could lose 5-17% of their existing habitat by the year 2030, 14-34% by 2060, and 21-42% by 2090, depending on the species considered and model used.”² These dates may sound like a long time away, but they are well within the lifetime of children now alive in Maine; children who may see Maine’s coastline re-written and 1/3 of trout stream habitat lost if society cannot change paths.

We must transition to a cleaner, more affordable future through several simultaneous policies, from energy efficiency to additional use of renewable energy available here in Maine. We have examined the impact of wind power in displacing pollution and fossil fuel energy, primarily natural gas, at great length—the simple conclusion is that wind power can play an important role in displacing these fuels and reducing pollution levels. There is no comprehensive assessment of Maine and the region’s climate and pollution mitigation strategy that does not include a significant amount of new non-emitting electricity generation. Where will that electricity come from? Nuclear? Solar? Biomass? New ocean renewable sources? Each may be important and each has trade-offs. Solar power remains expensive at grid-scale; tidal power is appealing but limited in scope; biomass generation has both air emission and affordability challenges. Wind power is one of the most cost-effective and abundant renewable energy sources in Maine and the region, though it sometimes must still struggle to compete with traditional sources of energy, such as oil and gas, that we have collectively subsidized and invested in for generations. The need to develop clean energy is obviously important but it does not automatically trump other needs—hence the need for balancing with conservation goals.

Wind Power Siting in Maine

Maine has taken some important steps to guide the development of appropriate wind power development, including by designating about 1/3 of LURC jurisdiction as “expedited” for wind power. It was clearly not the intention of the Governor’s Task Force on Wind Power nor the legislature for permitting authorities to give a rubber stamp to every wind project simply because it was proposed in the expedited area. In fact, the statutory criteria for receiving a development permit remain relatively similar to other forms of development.

7.2 million acres of LURC, which includes just over half of the identified windy land in the state, is outside of the expedited area. Within the expedited area, wind project locations are not only

¹ Kemp, Andrew et al. “Climate related sea-level variations over the past two millennia.” Proceedings of the National Science Foundation. 2011.

² O’Neal, Kirkman. “Effects of Global Warming on Trout and Salmon in U.S. Streams.” Defenders of Wildlife & National Resource Defense Council. 2002.

constrained by wind power generation issues (such as the wind resource and transmission access), but by proximity to homes, impacts to sensitive wildlife and habitat, and impacts to scenic resources of statewide significance. Avoiding all conflicts is impossible, which reflects the fact that there are no easy choices for energy.

Recently the Appalachian Mountain Club published further analysis of wind power sites in Maine in order to identify areas with greater or fewer conflicts.³ They identified 268 windy areas (mainly ridgelines) in Maine (not including Bowers) and ranked roughly 70 of those to be among the most suitable sites, given a wide range of environmental constraints. All 70 had some predicted adverse impacts, and the large majority (52) of them were within 3 miles of a scenic resource. 30, or nearly half, of these more preferable sites were within 3 miles of 2 or more scenic resources of statewide significance. On the other hand, only 10 of these 70 more preferable sites were within three miles of *four* or more scenic resources. Proximity is not the same as impact, much less undue adverse impacts, for many reasons. However this analysis reminds us that wind power sites must meet multiple criteria for environmental and existing use impacts within a constrained world, and there are few, if any places, where no conflicts occur.

While Bowers does not have many of the potential conflicts that other wind sites have or may have: noise, wildlife habitat, high elevation, or long-transmission lines and is part of a semi-cluster of wind development, the impacts on scenic resources and related existing recreational uses are significant. Within the context described above, we urge the Commission to give careful consideration and due weight to these resources and impacts.

In joint comments submitted by NRCM and others regarding the potential addition of the Kossuth portion of Bowers into the expedited wind zone, we wrote “The proposed area lies at the very northern edge of a large area around the Downeast lakes that was intentionally excluded from the expedited area because it represents a broadly treasured landscape with significant conservation values—where wind development was not appropriate for any expedited review. We continued: “The primary issue that must be considered by the Commission is the close proximity of the proposed expansion area to Pleasant Lake, a Great Pond with outstanding scenic value as determined by the Maine Wildland Lakes Assessment. The presence of Pleasant Lake was one of the reasons the southern portion of Kossuth Township was excluded from the expedited permitting area. There are also several other Great Ponds with statewide scenic significance within eight miles of the proposed area, and conserved and public lands in the vicinity.” We concluded: “We do not believe that the proximity of the proposed expansion area to Pleasant Lake, West Grand or Junior Lakes is sufficient grounds to reject the petition. In this case, the scenic impact of any proposed project can be evaluated during the development permit stage, when the impacts of the project in its entirety can be considered.” LURC has now arrived at that point where we must make a fuller and more detailed analysis.

Significance of the Potentially Affected Scenic Areas

The areas of state or national significance that will be affected by this project include nine lakes with scenic resources of statewide significance. Table 1 in the applicant’s VIA lists eight lakes, their status as significant or outstanding scenic resources, their distance from the turbines and the number of turbines visible within eight miles.

³ Publicover, David A., Kimball, Kenneth D., Poppenwimer, Catherine J.: Ridgeline Windpower Development in Maine; An Analysis of Potential Resource Conflicts, Appalachian Mountain Club, 2011.

This table fails to include Pug Lake, the northern most section of Junior Bay (which is the western part of West Grand Lake.) This is an additional outstanding scenic resource which will be adversely affected. According to the applicant's Exhibit 4, Viewshed map, up to 27 turbines will be visible from this lake.

Four of the nine lakes, including one with outstanding scenic resources, are within 3 miles of the proposed turbines. The other five lakes are within eight miles of the turbines.

The applicant indicates that Pleasant Lake is a Management Class 2 lake, while Palmer suggests it is a Management Class 7. It is our understanding of LURC's classification system that it is a Management Class 2.

There are three public lots within eight miles of the turbines, all of them within the Town of Lakeville. While two of them apparently have no views of the turbines, one of them, the 890 acre Keg Lake lot has frontage on both Keg and Duck Lakes. This lot includes the historic canoe portage route between Keg and Duck Lakes. The land surrounding the portage has been designated by BPL as a remote recreation area and there is potential for development of campsites and boat launch sites. (BPL's Lakeville Lots Management Plan, p. 108-110.) According to information provided by the applicant, between 10 and 18 turbines would be visible from the publicly owned shoreline on the southwest shore of Duck Lake.

Both the applicant and Palmer underrate the significance of the nine lakes with significant or outstanding scenic resources; neither the applicant or Palmer discuss the use of the region for multi-day paddling by either family and friends or by youth camps at all. These lakes are the northern portion of one of the largest interconnected lake systems in the east that provides opportunities for multi-day loop canoe and kayak trips in a remote environment. The Appalachian Mountain Club's lake canoeing guide, Quiet Water, describes this loop as "one of the best extended quiet-water loop trails in the state, especially when one detours for a few days into Scraggly Lake." (See Exhibit A, attached, p. 153.) Scraggly is described: "Wild and remote, this is the paddler's ideal lake: too shallow for most motorboaters and far enough from road access that you have to do some work to get here."

In this lake system, you can paddle for multiple days, camping at primitive campsites on the shorelines and on islands; DeLorme's Atlas shows at least eight sites within eight miles of the proposed project, and there are an unknown number of others. Sysladobsis, Bottle, and Pug/Junior Bay are part of the main loop trail; Pleasant, Scraggly, Shaw, Duck, Keg and Horseshoe are a short portage or paddle off the main loop or on the longer one way canoe trail that heads north and are wonderful places for paddlers wanting to explore quieter places. One may have to travel to the Boundary Waters in Minnesota to find as large a lake system with multiple opportunities for loop paddling and near by quiet lakes to explore. The jagged shoreline and coves of Scraggly, Shaw, and Pleasant are great places to look for wildlife and enjoy the wilderness character of the region.

The pre-filed testimony of Mr. Raphael on behalf of the applicant demonstrates some flaws and bias in the treatment of these scenic resources. For example, on p. 9, Raphael states that "only eight" resources of statewide significance have visibility of the project. According to LURC's Wildlands Lakes Assessment, there are only 100 lakes and ponds in LURC jurisdiction with outstanding or significant scenic resources of statewide significance. We are unaware of any other wind project proposed in Maine that had *as many as* eight scenic resources with visibility (and in this case, it is actually nine, not eight.) No one's analysis should turn on the number of resources, but this is an example of inappropriately devaluing the impact. Similarly, on p. 23, Raphael suggests that one of the lakes just barely scored enough points to be considered of "outstanding" scenic

significance. Given that only 73 lakes out of the 2635 lakes and ponds in LURC jurisdiction have been designated as outstanding scenic resources, we hope that LURC is less willing to discount this distinction, which belongs to so few Maine lakes. Perhaps most troubling, on p. 17, Raphael attempts to downplay the significance of these resources and the scenic impacts on them by saying this is a “working landscape” not a “pristine” one, and contrasting the view (unfavorably) with that of Mt. Katahdin. As LURC Commissioners well understand, most of the North Woods is a working landscape, not pristine wilderness. Limiting a finding of unreasonable adverse impacts to pristine landscapes or unique scenic vistas like Katahdin would be inconsistent with the law and insufficiently protective of the other places in Maine with high scenic and recreational importance.

The significance of this area for remote recreation has been broadly recognized through the extensive land conservation activity that has taken place in the region in the last decade. The Downeast Lakes Land Trust and the New England Forestry Foundation, along with other conservation partners, have spearheaded conservation that has resulted in 350,000 acres of conserved land around the downeast lakes. Some of this conserved land is included in the Sunrise Forestry and Public Access easements. Easement lands within eight miles of the Bowers Project include land surrounding Pleasant and Pug Lakes, about three quarters of the shoreline of Scraggly Lake and the southeastern shore of Junior Lake. The easement land immediately abuts the proposed wind project, and is located within one mile of proposed turbines. (See Exhibit B, Map of Conservation Lands and Key Recreational and Scenic Resources within 20 miles of Bowers Wind Project.)

Almost \$35 million of federal, state and private conservation funds have gone into this project already, and conservation efforts continue. The significance of the region is further enhanced by the current conservation project on West Grand Lake which was the number one priority conservation project in the country for the federal Forest Legacy Program this year and which just recently was awarded \$6.6 million dollars from the federal government. This is clear evidence that the applicant’s assertion that this is not an area of “regional or national importance” is simply wrong. Although the current West Grand Lake project is more than eight miles from the Bowers project, it is an integral part of the overall conservation effort which includes lands within eight miles of the turbines.

The conservation easement project was initiated by local guides who want to maintain the beauty and existing natural character of the region, including the areas within eight miles of the Bowers project. This naturalness is crucial for their guests and therefore for their own livelihood. The easement notes that one of the purposes of the easement to “conserve and/or enhance...historic public recreation opportunities.” It also notes that it “provides and maintains a predominantly forested area” for recreational uses and that it “maintains a natural resource base for a tourist-based economy and corresponding employment opportunities.” (Typhoon LLC Easement, p. 2 - 3.)

Existing Character of Surrounding Area

All of the lakes are surrounded by relatively flat terrain, with some rolling hills. Because of the relatively flat terrain, the hills which do exist, including Almanac, Bowers and Dill Hill, are quite noticeable to lake users. As the applicant noted, users of those lakes which have views of Bowers and Dill, would see many of the turbines. Users of Bottle Lake would see 13 turbines, but users on the other eight lakes with visibility of the project would see between 18 and 27 turbines. The entire area is under active forest management.

The character of the individual lakes varies. While all nine lakes would have views of the proposed turbines, some of the lakes have seasonal camp development on parts of their shorelines

while others do not. Three of the lakes, Pleasant, Scraggly and Shaw have no residential development (although Pleasant has a wilderness lodge.) When you are on these lakes, you have a real sense of remoteness.

On the other end of the spectrum, Bottle and Duck both have a number of camps and have a less remote feel. They serve as “entry” lakes into the larger lake system; many paddlers will move quickly through those lakes so that they can linger in more remote places like Scraggly.

In between these two groups are Keg Lake, which is small but has only a few camps, and Junior and Sysladobsis Lakes which have a larger number of camps, but the lakes are much larger, many of the camps are screened with vegetation, and large sections of the lakes are undeveloped. Despite their shoreline development, these three lakes still provide an experience of generally undeveloped naturalness for paddlers.

Expectations of Typical Viewer

There are clearly a number of different types of users of these lakes. The applicant focuses on motor boat users and fisherman. But in addition to those users, there are multi-day paddlers.

Multi-day paddlers who come to these lakes, if they have done their homework in advance, will know that Scraggly, Shaw, and Pleasant Lakes are undeveloped, and will be in search of a remote wilderness experience. Guide books and web sites provide information to potential paddlers. One of the reasons people will travel long distances into the heart of the Downeast Lakes is precisely to find that remote wilderness experience. If people are simply looking for places to paddle on beautiful lakes where there is evidence of man-made structures, Maine provides many, many choices. But lakes that are undeveloped and interconnected, and that provide opportunities for multi-day loop trips in a remote setting are rare.

In Palmer’s June 17 Peer Review of the report prepared by Michael Lawrence and Assoc. on behalf of intervenor PPDW, he criticizes the MLA submissions from the web site marketing literature of area sporting and lodging facilities including testimonials from visitors, sporting camp owners and professional sportsmen writers as not being representative of “typical viewers.” (Palmer, June 17, 2011, p. 4.) While it is true that they do not represent a statistical sample, we disagree and find the sources cited to be highly representative of the views of typical users. If those who have personally visited the area and those who have run businesses for decades that market to potential users and provide hospitality and guiding services to those who come do not understand the expectations of “typical users,” it is hard to imagine who could. The applicant has presented a more statistical survey of viewer expectations, which has also been rightly critiqued. Unfortunately there is no perfect statistical data on expectations of viewers that relates to potential wind farm impacts—therefore the Commission will need to consider the accumulation of other data points, which include the testimonials submitted by MLA.

Nature, extent and duration of uses

The lakes within eight miles of the proposed turbines are used by multi-day paddlers and youth camps on a regular basis during the open water season. Trips in this region can last from two days to a week or more, depending on the paddler’s interests. One could spend several days in Scraggly Lake alone, exploring the twenty miles of “highly varied shoreline... along marshy coves and undeveloped islands.” (*Quiet Waters*, p. 166.) The more remote sections of most of the lakes provide opportunities for lots of wildlife watching. The fact that this is one of the most highly recommended areas in the most commonly used lake canoe guide for Maine attests to its importance.

If the character of this area is changed from one with opportunities for remote multi-day paddling, to one with multi-day paddling in the constant presence of man-made structures, many of those paddlers seeking a wilderness experience will undoubtedly go elsewhere – although that may mean going out-of-state. If these lakes lose their remote characteristics, they will become lakes like many others in Maine, many of which are more easily accessible, and there will be no reason to travel long distances to reach these lakes.

The applicant points to the Baskahegan study as evidence that the turbines cause no adverse impact. However, the Baskahegan study was not well structured to report on experiences and perspectives from those users who have abandoned the area and gone elsewhere to seek more remote experiences. Pre-filed testimony by Louis Cataldo is evidence that there are at least a few such users. The unstructured interviews with several long-time users of Baskahegan Lake may provide some insights. For example, the study, and more anecdotal evidence, suggests that there may be a difference between wind development and shoreline residential development in terms of negative impact on scenic character of lakes such as these. However more research and analysis is warranted on this subject before any conclusion can be reached, and even then those conclusions may be relatively site-specific.

We agree with Palmer that the snowmobile study conducted by the applicant does not add much new information to this proceeding. It was a group that had already self-selected itself as being tolerant of the wind turbines—around Bowers as at other wind projects in Maine.

It is important in reviewing the amount of use that a lake receives not to necessarily translate high use into a conclusion that the lake is more important and low use into unimportance. Lakes that are prized for their remote wilderness experience, almost by definition, will have lower use. Low use can be a valued characteristic of a wilderness area, not an indication of lack of importance. And the inverse can be true. For example: while we did not take a position on the project, in our internal review of the Saddleback wind project proposed near Webb Lake in Weld, we noted that the impacted lake is very popular for recreational use and more developed. It is important in its own ways, but not as one of Maine's more remote-feeling lakes.

It is interesting to note that all three of the local people the applicant interviewed regarding use in the lakes indicated that there are more paddlers on the lakes now than there were in the past. This could indicate the increasing rarity of the type of experience offered by these lakes.

Scope and Scale of the potential effect of views of the generating facilities

The nine lakes from which the proposed turbines will be visible will all have extensive views of the turbines. As mentioned above, a large number of turbines are visible from each of the nine lakes.

We generally agree with Palmer's rating of overall scenic impact from the proposed project. (Palmer, Table 8, p. 62.) We also agree with his assessment that the scenic impact to scenic resources with state significance will be "Adverse at some locations and Very Adverse [at] others." (Palmer, p. 63.)

Not coincidentally, those lakes where the impacts will be "Very Adverse" are those lakes with currently the most wilderness character (Scraggly, Shaw and Pleasant.) Two of these lakes are less than 3 miles from the proposed project and one is just over three miles. Large man-made structures will significantly impact the remote paddler's wilderness experience in these lakes.

The rest of the lakes will have Adverse effects that range in severity. Due to the more developed nature of both Bottle and Duck Lake, the impacts will be less severe.

We strongly reject the applicant's Evaluation Matrix and attempt to assign a numerical value to overall scenic impact and agree with Palmer that it is "unworkable." (Applicant's VIA, Table 2, Evaluation Matrix, p. 40; Palmer VIA, p. 23) It is stunningly simplistic.

The applicant's matrix treats each criterion equally when evaluating a scenic resource, when clearly some factors (i.e. significance) may need to be given greater weight than others. Therefore, the overall scenic score for each resource (lake) is flawed.

That flaw is compounded when the applicant then averages the scores for all scenic resources within eight miles (including those which have no visibility and therefore no impacts) and creates an "overall project impact" scenic score. Averaging the flawed scores of all of the lakes leads to an even more flawed "overall project impact." Averaging the impact on a highly impacted resource with one that has no impact, leads to an average numerical impact but in no way represents the impact of the project on the resources that are actually affected.

Conclusion

Although we agree with Palmer's conclusions in many respects, both Palmer and especially the applicant's consultant and witness, Landworks, have an inappropriately narrow view of the significance of these scenic resources in the context of the LURC jurisdiction. They largely ignore non-motorized and non-fishing uses (which are more difficult, but not impossible, to characterize), do not consider how the resources may fit together as a whole, and fail to place the character and significance of these resources within the context of other scenic Great Ponds in Maine.

Determining whether the proposed project will have an "unreasonable adverse effect on the scenic character or existing uses related to scenic character of the scenic resource of state or national significance" requires weighing and balancing a number of factors, only a few of which we have addressed in our comments today. Given these factors and the context for wind power, we do not offer you a final conclusion on whether or not the project should be permitted. As you decide the ultimate question of whether the project meets the required legal criteria, we encourage the Commission to keep in mind both the potential benefits provided by, and overall need for, a source of clean, renewable energy and the specific adverse impacts that would be caused to nine significant or outstanding scenic resources of state significance and existing uses of those resources.

Thank you for your attention.