

## VISUAL IMPACTS

This section includes:

- A. The applicable review criteria;
- B. List of key evidence
- C. Listing of the visible components of the facility;
- D. Inventory of scenic resources of state or national significance and description of key evidence;
- E. User survey information;
- F. Project lighting information;
- G. Analysis; and
- H. Key questions for the Commission to answer in order to guide staff in writing the decision.

### A. REVIEW CRITERIA

*Selected sections of statute follow. Portions of the statute that are not relevant have been deleted; therefore some numbering will not be continuous. The entire Wind Energy Act is available in Appendix A of this deliberation notebook.*

#### 12 MRSA §685-B

**4. Criteria for approval** In approving applications submitted to it pursuant to this section, the commission may impose such reasonable terms and conditions as the commission may consider appropriate. In making a decision under this subsection regarding an application for a community-based offshore wind energy project, the commission may not consider whether the project meets the specific criteria designated in section 1862, subsection 2, paragraph A, subparagraph (6), divisions (a) to (d). This limitation is not intended to restrict the commission's review of related potential impacts of the project as determined by the commission.

The commission may not approve an application, unless:

C. Adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to ensure there will be no undue adverse effect on existing uses, scenic character, and natural and historic resources in the area likely to be affected by the proposal....

In making a determination under this paragraph regarding an expedited wind energy development, as defined in Title 35-A, section 3451, subsection 4, or a community-based offshore wind energy project, the commission shall consider the development's or project's effects on scenic character and existing uses related to scenic character in accordance with Title 35-A, section 3452;

**35-A MRSA §3451. DEFINITIONS**

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.....

**5. Generating facilities.** "Generating facilities" means wind turbines and towers and transmission lines, not including generator lead lines, that are immediately associated with the wind turbines.

**9. Scenic resource of state or national significance.** "Scenic resource of state or national significance" means an area or place owned by the public or to which the public has a legal right of access that is:

A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;

B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;

C. A national or state park;

D. A great pond that is:

(1) One of the 66 great ponds located in the State's organized area identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study published by the Executive Department, State Planning Office in October 1989; or

(2) One of the 280 great ponds in the State's unorganized or deorganized areas designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment" published by the Maine Land Use Regulation Commission in June 1987;

E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study" published by the Department of Conservation in 1982;

F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of Conservation designates by rule adopted in accordance with section 3457;

G. A scenic turnout constructed by the Department of Transportation pursuant to Title 23, section 954 on a public road that has been designated by the Commissioner of Transportation pursuant to Title 23, section 4206, subsection 1, paragraph G as a scenic highway; or

H. Scenic viewpoints located in the coastal area, as defined by Title 38, section 1802, subsection 1, that are ranked as having state or national significance in terms of scenic quality in:

(1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," Dewan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," Dewan and Associates, June 1992; or

(2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office in accordance with section 3457.

**35-A MRSA § 3452. Determination of effect on scenic character and related existing uses**

**1. Application of standard.** In making findings regarding the effect of an expedited wind energy development on scenic character and existing uses related to scenic character pursuant to Title 12, section 685-B, subsection 4 or Title 38, section 484, subsection 3 or section 480-D, the primary siting authority shall determine, in the manner provided in subsection 3, whether the development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of the scenic resource of state or national significance. Except as otherwise provided in subsection 2, determination that a wind energy development fits harmoniously into the existing natural environment in terms of potential effects on scenic character and existing uses related to scenic character is not required for approval under either Title 12, section 685-B, subsection 4, paragraph C or Title 38, section 484, subsection 3....

**3. Evaluation criteria.** In making its determination pursuant to subsection 1, and in determining whether an applicant for an expedited wind energy development must provide a visual impact assessment in accordance with subsection 4, the primary siting authority shall consider:

- A. The significance of the potentially affected scenic resource of state or national significance;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. The expedited wind energy development's purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource of state or national significance; and
- F. The scope and scale of the potential effect of views of the generating facilities on the scenic resource of state or national significance, including but not limited to issues related to the number and extent of turbines visible from the scenic resource of state or national significance, the distance from the scenic resource of state or national significance and the effect of prominent features of the development on the landscape.

A finding by the primary siting authority that the development's generating facilities are a highly visible feature in the landscape is not a solely sufficient basis for determination that an expedited wind energy project has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a scenic resource of state or national significance. In making its determination under subsection 1, the primary siting authority shall consider insignificant the effects of portions of the development's generating facilities located more than 8 miles, measured horizontally, from a scenic resource of state or national significance.

## B. LIST OF KEY EVIDENCE

- Development Application DP4886: Narrative & Section 18 *Visual Impact Assessment by T. J. DeWan*
- LURC Consultant Jim Palmer *Review of Bull Hill Wind Project Visual Impact Assessment*
- Applicant & Consultant DeWan review correspondence and pre-filed testimony
- LURC Consultant Jim Palmer review correspondence
- CCRHC Expert Witness Perry Moore Pre-filed testimony
- CCRHC Expert Witness Renata Moise Pre-filed testimony
- BSE Consultant DeWan pre-filed testimony rebuttal
- Applicant & Consultant DeWan Public Hearing Testimony including DeWan PowerPoint
- Intervenor CCRHC Public Hearing Testimony including Attorney Lynne Williams PowerPoint
- Public Testimony of David Boulter
- Public Testimony of Mary Ann John
- Public Testimony of NRCM
- Public Testimony of Attorney Dean A. Beaupain for Lakeville Shores, Inc.
- Public Testimony of Alan Michka
- Public E-mail Comment of Paul Sheridan 5/8/11
- BSE - Applicant Response to Public Comments 6-7-11
- BPL response to Sixth Procedural Order
- Applicant BSE Post-hearing Brief
- Intervenor CCRHC Final Brief

## C. VISIBLE FACILITY COMPONENTS

According to the application, the development will consist of the following:

- **Turbine Strings:** A total of 19 turbines, along with associated electrical interconnection infrastructure will be installed in two distinct strings on relatively low rounded hills. The northern string of 10 turbines will run in a northeast/southwest direction on 1.5 miles of Bull Hill in the northwest corner of Township 16 MD. The southern string of 9 turbines will run in a north/south direction on Heifer Hill and in northeast/southwest direction on Beech Knoll. The length of the southern string is approximately 2.2 miles.
- **Turbines:** The turbines will be Vestas V100 machines with a power rating of 1.8 MW, with a 95-meter (312 feet) hub height, a 100-meter (328 feet) rotor diameter, and a maximum tip-of-blade height of 145 meters (476 feet). All components of the turbine will be painted white.
- **Lighting:** Red warning lights will be installed following Federal Aviation Administration (FAA) guidelines, mounted on the top of some of the nacelles and on the permanent meteorological towers. The final lighting plan is determined by FAA approval.
- **Meteorological Towers:** The project facility will have up to three 95-meters (312 feet) steel lattice design permanent meteorological (met) towers with FAA required red warning lights. Components of the met towers will be white.

- **Electrical Collection and Transmission:** Power from each turbine will be collected in a 34.5 kilovolt (kV) collection system and flow to a substation. The substation will “step up” the power to 115 kV and transmit it directly to Bangor Hydro Electric Line 66. By locating the substation directly adjacent to Line 66, no 115 kV transmission line will be necessary for the project.
- **Operations and Maintenance (O&M) Facility:** An O&M building will be centrally located in the project area and will have roofing and exterior wall construction of neutral natural colors.
- **Roads:** There is a network of existing haul roads and several gravel pits used for previous road construction. Existing roads will be utilized to the greatest extent possible and on-site gravel pits will not exceed five acres. The applicant will maintain the 24-foot access roads and 36-foot wide crane path. Roads outside of the project area and therefore under the control of the landowner will continue to be maintained by the landowner.

#### D. INVENTORY OF SECNIC RESOURCES OF STATE OR NATIONAL SIGNIFICANCE:

According to the application materials, and corrections based on staff research, there are 14 Scenic Resources of State or National Significance (SRSNS) within 8 miles of the proposed generating facilities:

- 11 Great Ponds listed on the Maine Wildlands Lakes Assessment
- 1 National Historic Register Site
- 2 Scenic Viewpoints on Maine Public Reserve Land (MePRL)
- 0 Scenic Overlooks on the Blackwoods Scenic Byway

Schoodic Beach, which is listed in the application as a SRSNS, is identified as more than 8 miles from the generating facilities and so is not included in this staff analysis.

Tunk Mountain, which is listed in its entirety in the application as a coastal scenic resource in the Downeast Coastal Scenic Inventory; does not appear, as a whole, to be a SRSNS. The Wind Energy Act directed the State Planning Office to adopt rules with respect to scenic inventories. *see* 35-A M.R.S.A. § 3457(2) Those rules were adopted and they specified that such inventories must be formally adopted through a public process before becoming effective. The inventory which listed this viewpoint has not yet been adopted by the State Planning Office, and is therefore not effective for the purposes of identifying SRSNS. The south slope of Tunk Mountain, however, is within the Donnell Pond Unit, Maine Public Reserved Land, and it is the view from that location that is depicted in the applicant’s photosimulation 2. Thus, portions of Tunk Mountain can be considered a SRSNS. It is included in the list above as a viewpoint on Maine Public Reserve Land.

Of those 14 SRSNS, 5 would have views of the turbines:

- Donnell Pond\* in T9 SD
- Myrick Lake in T10 SD
- Narraguagus Lake in T16 MD
- Black Mountain \*
- Portions of Tunk Mountain\*

*\*Scenic Viewpoints in the Donnell Pond Unit, Maine Public Reserved Land administered by the Bureau of Public Lands, Maine Department of Conservation.*

According to the application, the remaining 9 SRSNS would not have any views of the turbines once the modeled vegetation is taken into account, although the intervenor CCRHC makes an argument that the modeled vegetation height and screening is not realistic – this issue is discussed later.

- Fox Pond in T10 SD
- Little Long Pond in T10 SD
- Lower Lead Mountain Pond in T28 MD
- Middle Lead Mountain Pond in T28 MD
- Spring River Lake in T10 SD
- Tilden Pond in T10 SD
- Tunk Lake in T10 SD
- Upper Lead Mountain Pond in T28 MD
- Eastbrook Baptist Church and Town House in Eastbrook (National Register of Historic Places). *Any view of the turbines at the Eastbrook Baptist Church and Town House is blocked by surrounding trees and vegetation. However, based on computer modeling of barren landscape based on topography only, the Church would have a view of several turbines. This is reflected in the summary tables which sometimes show the church listed with a view of up to 5 turbines, and sometimes with no view. (see Palmer review p. 19)*

Fiery Mtn, Catherine Mtn, and Caribou Mtn also appear to be in the Donnell Pond Unit, however according to the analysis; there is no visibility of the turbines from those mountains when vegetation is taken into account.

#### **SCENIC RESOURCES THAT ARE NOT CONSIDERED**

There has been substantial public correspondence about the significance of visual impacts on resources that are not considered under current law, most notably Acadia National Park, because they are too distant from the project area. The absence of any discussion of these areas in this deliberation document is not intended to disregard the importance of these areas, but rather is because under the law, any impacts to these viewpoints can not be considered as a factor in the Commission's decision.

#### **VISIBILITY OF SCENIC RESOURCES OF STATE OR NATIONAL SIGNIFICANCE**

*Note: Some resources have views only under the topographic or "bare ground" modeling, and some have only views of blade tips, so looking at which method and which turbine part is being evaluated in each table is important*

**Click on hyperlink below to display:**  
**Study Area Map A** by Terrance J DeWan & Associates (TJD & A)  
*Visual Impact Assessment Bull Hill Wind Project. 12/7/2010*  
[Exhibit 18, Appendix A of LURC DP #4886 application.](#)

**REVISED Palmer Table 1. Maximum Number of Bull Hill Wind Turbines Visible within 8 Miles of Significant Scenic Resources**

| Significant Scenic Resource           | Nearest Turbine (miles) | Blade Tip Visible |          |     | Turbine Hub Visible |          |     |
|---------------------------------------|-------------------------|-------------------|----------|-----|---------------------|----------|-----|
|                                       |                         | Topographic       | Forested | VIA | Topographic         | Forested | VIA |
| <b>Historic Sites</b>                 |                         |                   |          |     |                     |          |     |
| Eastbrook Baptist Church & Town House | 5.0                     | 8                 | 0        | 0   | 5                   | 0        | 0   |
| <b>Great Ponds</b>                    |                         |                   |          |     |                     |          |     |
| Donnell Pond                          | 5.2                     | 8                 | 6        | 6   | 7                   | 5        | 5   |
| Fox Pond †                            | 5.1                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Little Long Pond †                    | 5.4                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Lower Lead Mountain Pond              | 7.6                     | 6                 | 0        | 0   | 6                   | 0        | 0   |
| Middle Lead Mountain Pond †           | 8.0                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Myrick Lake                           | 4.6                     | 11                | 4        | 4   | 8                   | 4        | 4   |
| Narraguagus Lake                      | 2.0                     | 19                | 19       | 19  | 19                  | 17       | 17  |
| Spring River Lake †                   | 5.8                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Tilden Pond †                         | 5.8                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Tunk Lake †                           | 7.2                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| Upper Lead Mountain Pond †            | 7.0                     | 0                 | 0        | 0   | 0                   | 0        | 0   |
| <b>State Parks</b>                    |                         |                   |          |     |                     |          |     |
| Donnell Pond Unit—Black Mountain      | 7.8                     | 5                 | 5        | 5   | 5                   | 5        | 5   |
| Donnell Pond Unit - Tunk Mountain ‡   | 4.9                     | 19                | 19       | 19  | 19                  | 19       | 19  |

† Topography screens all visibility of the project from these sites.

‡ The summit of Tunk Mountain is on private property without public legal right of access, though informal access is being granted. However, portions are in the Donnell Pond Unit, including the Photosimulation 2 viewpoint.

Table Based on LURC Scenic Consultant James F. Palmer *Review of the Bull Hill Wind Project Visual Impact Assessment. 3/21/2011 with a correction by staff for Tunk Mountain of # of turbines visible (based on report text) and status as a coastal resource and the deletion of the Schoodic Beach resource, since it is more than 8 miles from the turbines.*

**DeWan Table 1. Significant or Outstanding Lakes and Ponds within 8 miles of the Bull Hill Wind Project**

| <b>WATERBODY / LOCATION</b> | <b>SIZE (acres)</b> | <b>DIST (miles)</b> | <b>TURBINES VISIBLE</b> | <b>% OF POND</b> | <b>SCENIC RATING</b> | <b>OVERALL RATING</b> |
|-----------------------------|---------------------|---------------------|-------------------------|------------------|----------------------|-----------------------|
| Narraguagus Lake, T16 MD    | 426                 | 2.0                 | Up to 19                | 55%              | S                    | 1B                    |
| Upper Lead Mtn. Pond, T28   | 1021                | 7.0                 | 0                       | NONE             | S                    | 2                     |
| Middle Lead Mtn. Pond, T28  | 486                 | 7.9                 | 0                       | NONE             | S                    | 2                     |
| Lower Lead Mtn. Pond, T28   |                     | 7.6                 | 0                       | NONE             |                      |                       |
| Little Long Pond, T10 SD    | 55                  | 5.4                 | 0                       | NONE             | O                    | 1B                    |
| Myrick Lake, T10 SD         | 45                  | 4.6                 | Blades of 6±            | 12%              | S                    | 2                     |
| Spring River Lake, T10 SD   | 704                 | 5.9                 | 0                       | NONE             | O                    | 1A                    |
| Tilden Pond, T10 SD         | 36                  | 5.8                 | 0                       | NONE             | +                    | 2                     |
| Tunk Lake, T10 SD           | 2010                | 7.3                 | 0                       | NONE             | O                    | 1A                    |
| Donnell Pond, T9 SD         | 1120                | 5.3                 | Up to 12                | 19%              | O                    | 1A                    |
| Fox Pond, T10 SD            | 77                  | 5.1                 | 0                       | NONE             | O                    | 1A                    |

SIZE: Area of waterbody in acres  
 DIST: Distance to the nearest turbine.  
 # VISIBLE: The approximate number of turbines within eight miles that may be visible from the lake/pond.  
 % OF POND: The portion of the waterbody where any portion of a turbine may be visible.  
 SCENIC RATING: S: Significant O: Outstanding +: Needs field checking due to positive public comment.  
 OVERALL RATING:  
 1A: Lakes with multiple outstanding values or 1 outstanding and 4 or more significant values.  
 1B: Lakes with a single outstanding natural value.  
 2: Lakes with no outstanding values but at least one significant resource value.  
 3: Lakes with no known outstanding or significant values

Table 1. by Terrance J DeWan & Associates *Visual Impact Assessment Bull Hill Wind Project. 12/7/2010*  
 Exhibit 18 of Bull Hill Wind Project LURC development application.

**RATING THE IMPACTS:**

The Applicant's VIA explains their rating system:

**7.0 SUMMARY**

*The Maine Wind Power Law established several criteria to determine whether expedited wind energy development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic character or existing uses related to scenic character of the resource. The summary presented in Table 5 is based upon the information provided in the Visual Impact Assessment, the intercept survey conducted by Market Decisions, and other information on existing use patterns.*

*The first five criteria evaluate the 8-mile study area, the immediate project area, the quality of the resource, existing use patterns and viewer expectations, and the purpose of the project:*

**A Resource of Significance:** *This criterion reflects the designation of scenic significance by the State or Federal Government. All the resources on the table have been identified as Scenic Areas of State or National Significance. The light gray are significant resources; medium gray are outstanding resources.*

**B Character of Surrounding Area:** *This criterion evaluates the setting of the resource and its surrounding area. In most cases the surroundings have been noted as medium (generally of a natural condition for lakes and mountains, and of a typical Maine village condition for historic resources). The dark gray indicates high levels of landscape contrast (usually resulting from the juxtaposition of water and landforms).*

**C Viewer Expectation:** *This criterion takes into account the designation of scenic quality by state agencies, the intrinsic character of the resource, the presence of cultural modifications, and other factors. Intercept surveys of hikers in Maine have shown that people hike for many reasons other than to enjoy the scenery.*

**D Purpose and Context:** *This criterion is a reflection of how the Project contributes toward the state's goals for energy as per the Wind Energy Act. A medium gray color was assigned, since the project will make a moderate contribution toward achieving the State's goals.*

**E.1 Extent, nature & duration of uses:** *This criterion looks at the number of users, the potential for access (in the case of lakes and ponds), the type and extent of facilities, typical length of stay, and information from the intercept survey.*

*The last two criteria evaluate the possible effect that the Project may have on the use of the resource and the likely visual impacts:*

**E.2 Effect on continued use and enjoyment:** *This criterion is largely based on the intercept surveys to determine if the Project would significantly affect their continued use and enjoyment of the resource. If the Project will not be visible from the resource, the matrix is left blank (no effect). A light color indicates that the Project is not expected to have a major impact on people's continued use or enjoyment.*

**F Scope and scale of project views:** *This criterion looks at the number of turbines visible, their position in the landscape, the angle of view that they are seen over, and the distance from the observer. Only turbines within eight miles of the resource are considered.*

*If the Project is not visible from the resource, then the scenic impact is rated as "None" on Table 5. Myrick Lake is rated Low due to the low number of recreational users and difficult access. Narraguagus Lake is rated as Low tending to Medium due to the low number of users and the lack of public access, as well as the proximity and visibility of the Project. Donnell Pond is rated as Low tending to Medium due to the results*

*of the intercept survey, the scenic quality of the place, the lack of visual contact from major recreation areas, the presence of development along the shoreline, and the limited and distant visibility of the Project.*

*Most of the mountains have a Low Overall Scenic Impact due to their relatively low number of users and distance to the Project. Both Black Mountain and Tunk Mountain were rated as Low tending to Medium due to their more established trail systems, greater elevations, and panoramic views toward the Project. The views from the mountains toward the Project, when present at all, are generally not the most significant views. The more significant southerly views, which include panoramas of Mount Desert Island, Frenchman Bay, and the nearby lakes, will not be affected by the Project.*

**DeWan Table 5: Summary of Evaluation Criteria**

| Scenic Resource of State or National Significance within 8-mile Study Area | Scenic Impact Evaluation Criteria |                                  |                       |                        |                                      |                                  | Overall Scenic Impact |
|--|-----------------------------------|----------------------------------|-----------------------|------------------------|--------------------------------------|----------------------------------|-----------------------|
|  | A: Resource Significance          | B. Character of Surrounding Area | C: Viewer Expectation | D: Purpose and Context | E.1: Extent, Nature, Duration of Use | E.2: Continued Use and Enjoyment |                       |
| <b>6B Historic Sites</b>   |                                   |                                  |                       |                        |                                      |                                  |                       |
| Eastbrook Baptist Church and Town House                                    | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| <b>6D. Great Ponds</b>   |                                   |                                  |                       |                        |                                      |                                  |                       |
| Narraguagus Lake   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 | Light Orange                     | Low-Medium            |
| Upper Lead Mtn. Pond   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Middle Lead Mtn. Pond  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Lower Lead Mtn. Pond   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Little Long Pond   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Myrick Lake  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 | Light Orange                     | Low                   |
| Spring River Lake  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Tilden Pond  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Tunk Lake  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Donnell Pond   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 | Light Orange                     | Low-Medium            |
| <b>6F. Scenic Viewpoints: PRL</b>  |                                   |                                  |                       |                        |                                      |                                  |                       |
| Black Mountain   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 | Light Orange                     | Low-Medium            |
| Caribou Mountain   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| Fiery Mountain   | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 |                                  | None                  |
| <b>6H. Coastal Viewpoints</b>  |                                   |                                  |                       |                        |                                      |                                  |                       |
| Tunk Mountain  | Grey                              | Grey                             | Grey                  | Grey                   | Grey                                 | Light Orange                     | Low-Medium            |

Table 1. Summary of Evaluation Criteria by Terrance J DeWan & Associates from his *Visual Impact Assessment Bull Hill Wind Project*. 12/7/2010 Exhibit 18 of Bull Hill Wind Project LURC development application

## Palmer's Review Explains His Rating System:

### 4. Evaluation of Scenic Impacts

#### 4.1 Evaluation Criteria

Ten places were identified as potential state or nationally significant scenic resources under the Wind Energy Act criteria. This section evaluates the scenic impact to these resources based on my understanding of the Wind Energy Act's scenic impact Evaluation Criteria.

**A Significance of resource:** Consider the role of scenic quality in designation, and the level of significance relative to similar designations. Indicators may be obtained from the designation reports or forms, supplemented by descriptions from widely used guide books.

**B Character of surrounding area:** Consider contrasts with the existing landscape and the presence of other contrasting elements. User surveys may provide a direct measure of the existing scenic quality. This may also be based on a descriptive landscape characterization, typically prepared by a landscape professional.

**C Typical viewer expectation:** Consider the resource's scenic reputation and the centrality of scenic quality in its designation. User surveys may provide an indicator of expectations. In the absence of direct empirical data, distance traveled or descriptions from widely used guide books may provide alternative indicators.

**D Development's purpose and context:** This criterion incorporates the Wind Energy Act's goal of achieving significant wind energy development into consideration of scenic impacts. Consider site quality—wind suitability, proximity to transmission line, and potential power generation if all potential turbine sites in the area are used. Low evaluation means that if all sites in the area are developed, it makes a major contribution to Wind Energy Act's goals. High evaluation means the area makes a minor contribution when all potential sites are developed.

**E.1 Extent, nature & duration of uses:** Consider the number of users, role of scenic quality in use of the resource, and typical length of stay. User surveys provide the most direct indicators, but trail logs or traffic counters may also be useful. Potential accessibility may be an indicator in the absence of empirical data.

**E.2 Effect on continued use and enjoyment:** If the project were built, what is the likelihood of users returning, and the impact on their enjoyment of the scenic resource? User surveys incorporation accurate photographic visual simulations may provide indicators.

**F Scope and scale of project views:** Consider the relative magnitude of project elements and the proportion of total angle of view occupied by project. Accurate photographic simulations and visibility analyses may provide indicators.

The levels of severity for the Evaluation Criteria are as follows:

- **None.** The Evaluation Criterion makes no contribution to scenic impact. For some criteria a rating of None means that there is No Adverse Impact (e.g., there are no people present—Criterion E, or the project is not visible—Criterion F).
- **Low.** The severity of the contribution is low. While the scenic impact may be Adverse, it appears to be within the acceptable range for any type of development (e.g., only one or two turbines will be partially visible at a distance of nearly 8 miles—Criterion F).
- **Medium.** The severity of the contribution is medium, which is Adverse but typical of wind energy development, and within the range of impacts that the Wind Energy Act anticipates (e.g., other towers or large scale structures are present that contrast highly with the surrounding landscape).
- **High.** The severity of the contribution is high from this criterion, which in association with other criteria may make the overall scenic impact Unreasonably Adverse (e.g., a possible scenario suggesting an Unreasonable Adverse impact might be that the scenic resource is a national icon—Criterion A is High, though there are only modest numbers of viewers—Criteria E.1 is Low—to a person their enjoyment will seriously decline—Criteria E.2 is High).

**REVISED Palmer Table 2. Summary of Evaluation Criteria Ratings for the Bull Hill Wind Project**

| Scenic Resources of State or National Significance in the Surrounding Area | Scenic Impact Evaluation Criteria |         |        |        |         |         |         | Overall Scenic Impact |
|--|-----------------------------------|---------|--------|--------|---------|---------|---------|-----------------------|
|  | A                                 | B       | C      | D      | E.1     | E.2     | F       |                       |
| <b>Historic Sites</b>  |                                   |         |        |        |         |         |         |                       |
| Eastbrook Baptist Church and Town House †                                  | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| <b>Great Ponds</b>   |                                   |         |        |        |         |         |         |                       |
| Donnell Pond   | Med-Hi                            | Med-Hi  | Med-Hi | Medium | Medium  | Low-Med | Medium  | Medium                |
| Fox Pond   | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Little Long Pond   | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Lower Lead Mountain Pond   | *                                 | *       | *      | *      | *       | *       | 0       |                       |
| Middle Lead Mountain Pond  | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Myrick Lake  | Low                               | Medium  | Med-Hi | Medium | Low     | Low     | Low-Med | Low                   |
| Narraguagus Lake   | Low                               | Low-Med | Med-Hi | Medium | Low     | Low     | High    | Medium                |
| Spring River Lake  | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Tilden Pond  | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Tunk Lake  | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| Upper Lead Mountain Pond   | *                                 | *       | *      | *      | *       | *       | 0       | None                  |
| <b>Maine Public Reserved Land</b>  |                                   |         |        |        |         |         |         |                       |
| Donnell Pond Unit—Black Mountain   | Medium                            | High    | High   | Medium | Low–Med | Low–Med | Med–Hi  | Med–Hi                |
| Tunk Mountain †  | Med–Hi                            | High    | High   | Medium | Low     | Low–Med | High    | Med–Hi                |

**Notes:** The Evaluation Criteria are: (A) Significance of resource, (B) Character of surrounding area, (C) Typical viewer expectation, (D) Development’s purpose and context, (E.1) Extent, nature & duration of uses, (E.2) Effect on continued use and enjoyment, and (F) Scope and scale of project views.

† The summit of Tunk Mountain is on private property, though informal access is being granted. However, portions are in the Donnell Pond Unit, including the Photosimulation 2 viewpoint.

\* Since there is no project visibility, there is no scenic impact.

Table Based on LURC Scenic Consultant James F. Palmer *Review of the Bull Hill Wind Project Visual Impact Assessment. 3/21/2011 with a correction by staff for Tunk Mountain’s status as a SRSNS and the deletion of the Schoodic Beach resource, since it is more than 8 miles from the turbines*

## DESCRIPTION OF SCENIC RESOURCES OF STATE OR NATIONAL SIGNIFICANCE WITH VIEWS OF THE PROJECT

The following descriptions are compiled as summaries by LURC staff from the DeWan VIA, and the J. Palmer Review of the DeWan VIA for LURC.

In this section all of the photos, including the photosimulations, are from the Bull Hill Development Application Exhibit 18 Visual Analysis Report by T. J. DeWan & Associates.

\*\*\*\*\*See the end of this section for photosimulations from each of the SRSNS.\*\*\*\*\*

### NARRAGUAGUS LAKE

#### Description

- Narraguagus Lake (426 acres, elevation 224), 2.0 miles southeast of the Project, is the closest scenic resource of state or national significance to the turbines.
- The lake is located in three unorganized townships: T16 MD, T10 SD, and T9 SD.
- Heifer Hill and Bull Hill are typical of the low hills that partially surround the lake, create an undulating sense of enclosure throughout much of its length.
- The most distinctive landform visible from the lake is the partially bald face of Tunk Mountain (el. 1157ft), 2.3 miles to the southeast. No turbines visible from this viewpoint.
- No public access.
- The majority of the shoreline is undeveloped and includes a half a dozen cottages on the northwestern corner and western shoreline, accessed by logging road on the west side of the lake.
- Most of the area surrounding Narraguagus Lake is either private timberland or held by The Nature Conservancy.
- Ongoing commercial logging operations have created a network of roads within 0.5 miles of the waterfront on the west, south, and east sides.
- According to the applicant the Maine Wildlands Lakes Assessment notes that the lake is accessible and undeveloped and received a resource rating of significant for its scenic resources. However, staff wish to point out that the Wildlands Lake Assessment actually rates Narraguagus Lake as developed, and the accessibility rating was changed to inaccessible in the 1990 rule adoption.
- The Assessment assigned Narraguagus Lake to Resource Class 1B.
- 19 turbines will be visible at 2.9 to 5.7 miles from the southern shore.

#### DISCUSSION

- Applicant BSE; DeWan:  
*"The turbines will not be visible from the camps on the northwestern shore of the lake. The red warning lights on the turbines will be visible above the horizon from much of the lake during the evening and nighttime hours, with the exception of the populated cove at the northwestern end. ...*

*Conclusion: The Project will occupy a prominent position above the northwestern shoreline of the lake. However, the turbines will not block the southerly view toward Tunk Mountain, which is the focal point of the lake. The Bull Hill Wind Project should not significantly compromise views from Narraguagus Lake. The Project should not have an unreasonable adverse effect on its scenic character or the recreational uses related to the scenic character of the lake. ... Narraguagus Lake*

*is rated as Low tending to Medium due to the low number of users and the lack of public access, as well as the proximity and visibility of the Project."*

- LURC Scenic Consultant; Palmer:

*"Narraguagus Lake is sufficiently close to the Bull Hill Wind Project and the area of visibility is sufficiently extensive that the turbines will dominate views to the northern end of the lake. A major moderating circumstance is the expectation that Narraguagus Lake sees relatively few users, and most of those will be fishing, which is an activity where scenic quality may not be most central to the experience. So far surveys have indicated that people will continue to return to engage in their recreation activities, even if turbines will be part of the view. However, the magnitude of this impact is sufficiently greater than in views included in past surveys that the transferability of the result is less certain. Another major moderating circumstance is that the significance of Narraguagus Lake as a scenic resource is rather low. The overall impact is judged to be Medium."*

*"Conclusion: I can agree that "the project will occupy a prominent position... but not block the southerly view toward Tunk Mountain, which is the focal point of the lake." However, this does not justify the conclusion that the project "should not significantly compromise views from Narraguagus Lake" (TJD&A 2010, page 22).*

Public Testimony of Attorney Dean Beaupain for Lakeville Shores, Inc. 5/17/11: (quotation)

**Based on its previous ownership of the parcel, no motor vehicle access to the east shore of Narraguagus Lake exists. No motor vehicle access to the west shore of Narraguagus Lake existed prior to Lakeville Shores extending the land management road from Township 9 SD into the southwest corner of Township 16 MD after 2004. No road extends to Narraguagus Lake on the west shore and no boat launch exists. Any boating on Narraguagus Lake requires a great deal of effort and the west shore can be reached only over company lands and no one using company roads have any legal easement to use those roads. Lakeville Shores believes boat use of Narraguagus Lake is extremely limited if it exists at all.**

**While the view from portions of Narraguagus Lake of the project will be different in that turbines will be visible, the view from lake presently has no use by the public at all due to lack of any road access or boat launch facilities.**

**The 20,000 acres of timberland in Township 16 MD and adjacent 1,600 acres in Township 9 SD are part of the working forest maintained by the Haynes family. Neither parcel is part of any wilderness area and any misconception that the area is anything other than an industrial forest needs to be corrected. This contiguous working forest is devoted to timber production and will continue to be devoted to that use for the entire term of the lease with Blue Sky East.**

**MYRICK LAKE**Description

- Myrick Lake (45 acres, el. 236ft) is a remote at 4.6 miles southeast of the nearest project turbine.
- The USGS refers to it as Myrick Lake while the Maine Wildlands Lakes Assessment and the Maine Atlas & Gazetteer refers to it as Myrick Pond. There is no official public access
- The pond is located in commercial forestland, 4.5 miles from Route 182 on the Myrick Pond Road.
- The pond is just north of the border of the Donnell Unit Maine Public Reserve Lands.
- The northern part of the pond has southerly views to Tunk Mountain (el. 1,157ft) and several other nearby prominent hills.
- A few seasonal camps are located on the pond, but are very well screened and/or set back from the edge of the water.
- According to the application, the Maine Wildlands Lakes Assessment notes that the lake is inaccessible and developed and received a resource rating of significant for its scenic resources. It was not rated for any other resource values. The Assessment assigned Myrick Lake to Resource Class 2. However, the staff wish to note that the rating was changed to accessible during the 1990 rule adoption.
- According to the application, LURC's Comprehensive Land Use Plan includes Myrick Lake in Management Class 5 as lakes approaching a heavily developed status, which is for lakes with less than 20 acres or 1,000 feet of frontage per dwelling unit taken as an average around the entire lake.
- There is a panoramic view looking N from SE shoreline. The blades of 6± turbines may be visible beyond a point of land into the lake.

There is no photosimulation for Myrick Lake, so photos from the application VIA are included here.



P73: Panoramic view looking north from the southeastern shoreline on Myrick Lake in T10 SD. The Project will not be visible from this viewpoint.



P74: View of access road to Myrick Lake.



P75: Panoramic view looking north from the southeastern shoreline of Myrick Lake, which the Maine Wildlands Lake Assessment described as having Significant scenic resources. The Project will not be visible from this viewpoint but up to six turbines may be visible from the water beyond the point of land on the left in photo.

## DISCUSSION

- Applicant Consultant DeWan:

DeWan's VIA assessment of Myrick Lake is that the overall visual impact is low, that the blades of 4-6 turbines may be visible over 12% of the lake, that with limited public access there are relatively few users of boating and fishing. Several of the turbine lights may be visible, filtered through the upper branches of the shoreline trees.

*"Conclusion. The Bull Hill Wind Project should not significantly compromise views from Myrick Lake. The Project should not have an unreasonable adverse effect on its scenic character or the uses related to the scenic character of the pond. ... Myrick Lake is rated Low due to the low number of recreational users and difficult access."*

- LURC Scenic Consultant Palmer:

*"It is possible that approximately 4 turbine hubs could be visible, though they may be screened by shoreline vegetation higher than 40 feet tall. Since it was not possible to get to Myrick Lake to verify it condition, this is an unknown. However, if turbine hubs are visible, this may be sufficient to remove the Significant scenic quality rating in the Maine Wildlands Lakes Assessment. Use of Myrick Lake is assumed to be low. It is assumed that use of Myrick Lake would not be affected, since the survey found that respondents' likelihood of returning to Donnell Pond to engage in water-based activities. The overall impact is judged to be Low."*

## DONNELL POND MANAGEMENT UNIT

Description of the overall Donnell Pond Unit by LURC consultant Jim Palmer:

*"The 15,384 acre Donnell Pond Unit is a Maine Public Reserved Land that was identified by BPL as significant scenic resource under the Wind energy Act Maine (Department of Conservation. 2010). It is bordered to the north by the Spring River Matrix, a 9,592 acre parcel held by The Nature Conservancy for wildlife and conservation purposes.*

*It is adjacent to or surrounds several Great Ponds that are significant scenic resources: Donnell Pond, Little Long Pond, Spring River Lake, Tilden Pond, and Tunk Lake. Several distinctive mountains are within or adjacent to the Unit, including Schoodic (1,069 feet), the western summit of Black (1,049 feet), the eastern summit of Black (1,094 feet), and Caribou (954 feet). The Tunk Mountain (1,157 feet) summit is apparently just outside the park in the Spring River Matrix. In addition, the Blackwoods Scenic Byway along Route 182 passes east to west through the Unit.*

*The Bureau of Parks and Lands (2010) Downeast Management Plan indicates that "the scenic quality throughout the Unit is a valuable resource... Management for any purpose takes into consideration its importance with respect to the visual integrity of the surrounding area. Most of the unit can also be viewed from the ridgelines. There are also distant views of coastal bays and islands, lakes, ponds, cliffs, and forestland well beyond the Unit."*

## Donnell Pond

### Description

- Donnell Pond, at 1,120 acres, is the second largest of the 14 lakes and ponds in the Donnell Pond Unit (The largest is Tunk Lake at 2,010 acres.)
- The closet point of Donnell Pond is 5.3 miles to the nearest turbine. The end of the pond with Schoodic Beach is 8.01 (Distance over 8 miles excludes beach as a regulatory scenic resource.)
- Most of the pond is located in T9 SD; a small portion (near the boat launch at Card Mill) is located in the town of Franklin.
- The lake is pinwheel-shaped, with three main fingers. The western portion is the most heavily developed with camps lining a narrow cove that terminates at a small dam and the boat launch.
- The northern section is composed of the Narrows, which leads into Martin Ridge Cove, where a dozen camps and other structures are located.
- Recreational facilities are concentrated at the southern end, with very popular campsites, beaches, and picnic areas with views of Schoodic Mountain and Black Mountain.
- According to the Downeast Region Management Plan, 86% of the shoreline is within the Donnell Pond Unit. Eight miles (66% of the shoreline) is held in fee by the Department of Conservation; another 3.4 miles (20% of the shoreline) is protected by a scenic easement.
- According to the Management Plan, "The extensive sand beaches of Donnell Pond make this area an increasingly popular destination for day users and campers. A combination of scenic surroundings and the pond's popularity for boating provide a setting for camping and day use.
- The view from the surface of Donnell Pond is dynamic. The profile of the hills rise above the shoreline which changes as the viewer moves along the shoreline pines and islands.
- Except for the camps noted above, the Maine Wildlands Lakes Assessment notes that the lake is accessible and undeveloped and received a resource rating of outstanding for its scenic resources, as well as its fisheries and shore character. The Assessment assigned is Resource Class 1A. However, the staff wish to note that the rating was changed to developed during the 1990 rule adoption.

### Scenic Impacts from Pond

- Card Mill boat launch, western end of Pond. Turbines not visible.
- From the developed shoreline at the western end of Pond with a centered view of Caribou Mtn. there are no turbines visible.
- Canoeing east of Little Island the turbines not visible.
- A panoramic view from middle of the Pond to Tunk and Caribou Mountains with no turbines visible.
- Looking north near the Narrows there are 4 turbines visible that are within a distance of 8 miles.
- From the group camping area on Redman Beach with a westerly view there are no turbines visible.
- From the Narrows on the pond heading north there are 4± turbines that may be visible.
- From the panoramic view at Martin Ridge Cove the blades of 4± turbines may be visible.
- There is an existing radio tower on Martin Ridge.
- From the Southern end of the Pond 5 turbines will be visible that are within 8 miles distance.
- On 1% of the pond 6 to 9 turbines would be visible in a narrow area near the western shoreline.
- At least 1 turbine within 8 miles would be visible from 19% of the surface of the lake.
- The red warning lights on several of the turbines will be visible from various points on the pond at distances of 5.6 to 8 miles. The lights will appear very low to the horizon and occupy an arc of 7-8°

- The lights will not be visible from any of the campsites on the shoreline of Donnell Pond.
- Lights will also be visible from some of the mountains within the Donnell Pond Unit.

#### DISCUSSION

- Applicant Consultant DeWan:

*"The primary impact will be on people who fish or boat on the lake. The presence of the turbines will have an effect on the character of Donnell Pond by introducing man-made elements in a largely natural landscape and present a contrast in form, line, and color. At viewing distance of 5.6 to 8 miles, the turbines will appear to be relatively small when compared with the surrounding mountains and should not present an unacceptable contrast in scale. Where the turbines are visible, they are primarily seen in the valleys between small hills and mountains, and not on the more prominent ridgelines. The turbines will not block views of the surrounding mountains from any point on Donnell Pond. The presence of the turbines will not have an effect on the lakes relief, physical features, shoreline configuration, or its special features, characteristics that accounted for the majority of points it received in the Scenic Lakes Character Evaluation."*

*"Conclusion: The Bull Hill Wind Project will have an adverse effect on the views from Donnell Pond by introducing large, man-made elements in the background of a generally natural, highly scenic landscape. However, the change will be noticeable over a relatively small portion of the pond (approximately 1/5th) and only by those heading toward the Project. The turbines would also be seen in the context of a landscape that already includes a communications tower, shoreline development and other forms of development. The presence of the turbines should not have an unreasonable adverse effect on the scenic character or the uses related to the scenic character of Donnell Pond."*

*Donnell Pond is rated as Low tending to Medium due to the results of the intercept survey, the scenic quality of the place, the lack of visual contact from major recreation areas, the presence of development along the shoreline, and the limited and distant visibility of the Project.*

- LURC Scenic Consultant Palmer:

*Potential Effect on Public Use: The survey results indicate that the rating of the view from Donnell Pond will drop from 5.50 to 4.62, or 0.88 points on a 7-point scale. A large majority of respondents said that the presence of the turbines would not affect their future enjoyment or the likelihood that they would return.*

*Conclusion: A summary of the situation is presented: large artificial elements are introduced and will be visible from 20 percent of the lake when facing toward the project. The surrounding context includes some existing development, including a communications tower and seasonal homes. It is acknowledged that the impact is Adverse, but it "should not have an Unreasonable Adverse effect on the scenic character or uses related to the scenic character of Donnell Pond." The reasoning or thresholds that separate a judgment of Adverse from Unreasonably Adverse are not made clear.*

## Black Mountain

### Description

- Black Mountain has three interconnected peaks that are accessed by a trail network from both the north and south sides. There is public access. This is a publicly owned property.
- The east peak is 1,094 feet high and is free of trees, offering beautiful 360° panoramic views.
- The Bull Hill Wind project will be clearly visible from the eastern summit. See Photosimulation 3.

- All 19 turbines will be seen from 7.8 to 10.5 miles away and will occupy a horizontal angle of approximately 12°. The 5 turbines within 8 miles of the viewpoint will occupy a horizontal angle of approximately 6° which would be 1.7% of the total 360°.
- The Bull Hill Wind Project would have a significant visual presence to a viewer facing toward them on the eastern summit of Black Mountain occupying a moderate portion of the field of view.
- The survey results for the view from Black Mountain's eastern summit indicate that the turbines will have a very negative effect on the scenic value of this view.
- It appears that Black Mountain receives moderate use. The trails are formal and well-marked, there is no provision for parking, and it is not widely advertised as a destination.
- The Bureau of Parks and Lands is improving access in the Donnell Pond Unit, which is anticipated to increase overall use throughout the Unit.

## DISCUSSION

- Applicant Consultant DeWan:

*"The presence of the turbines will have an adverse effect on the view from the summit of Black Mountain by introducing man-made elements in a largely natural landscape and present a contrast in form, line, and color. At viewing distance of 7.9 to 8 miles, the turbines will appear to be relatively small when compared with the surrounding low hills and background mountains and should not present an unacceptable contrast in scale. The turbines will be seen in a broad valley to the north and will not block views of the surrounding lakes or mountains. Conclusion. The Bull Hill Wind Project will have an adverse effect on the northerly views from Black Mountain ..."*

*Most of the mountains have a Low Overall Scenic Impact due to their relatively low number of users and distance to the Project. Both Black Mountain and Tunk Mountain were rated as Low tending to Medium due to their more established trail systems, greater elevations, and panoramic views toward the Project. The views from the mountains toward the Project, when present at all, are generally not the most significant views. The more significant southerly views, which include panoramas of Mount Desert Island, Frenchman Bay, and the nearby lakes, will not be affected by the Project.*

- LURC Scenic Consultant Palmer:

*"Potential Effect on Public Use: The survey respondents' rating of the view from Black Mountain toward Bull Hill was 6.26; the introduction of the turbines dropped it to 4.32. This is a very large drop. However, 45 percent of the respondents indicated that it would not affect their enjoyment one way or the other. It is not clearly presented that 47 percent indicated that it would have some negative effect on their enjoyment, while 9 percent indicated that it would have some positive effect. Nonetheless, 75 percent of respondents indicated that it would not affect the likelihood that they would return one way or another.*

*Conclusions: While it is recognized that the project will have an Adverse effect, it is concluded that "the project should not have an Unreasonable Adverse effect on the scenic character or the uses related to the scenic character of Black Mountain." The reasons given are that it will occupy a "relatively small portion of the 360 degree view" and that it "will have no effect on the most highly rated view (i.e., towards Mount Desert Island and Acadia National Park to the south)." This is a good start, but how do other Evaluation Criteria contribute to this judgment?"*

## Tunk Mountain

### Description

- Tunk Mountain is the highest peak within the 8-mile study area. Its bald ledges and sharp profile make it an easily identified landmark in the area surrounding the Donnell Pond Unit.
- The southerly base of the mountain is part of the Maine Public Reserve Land; however, most of the summit of Tunk Mountain is held privately (The Nature Conservancy (TNC)) and is not managed by the State.
- Tunk Mountain is a much more linear peak and the closest significant mountain to the Project.
- The majority of the open views is to the southeast to west, and includes Spring River Lake at the base of the mountain and the distant peaks on Mount Desert Island.
- One open ledge on the north side of the mountain looks toward the Project, which will be visible at a distance of 4.9 miles to the closest turbine. This viewpoint is also the location of a small building and a communications antenna.

### Project Impacts

- Photosimulation 2 from Tunk Mountain indicates that all 19 turbines would be visible from the viewpoint on the summit that has northerly views. This is the view from the BPL property.
- All 19 turbines would be visible over an arc of 22° at distances ranging from 4.9 to 7.2 miles.
- The Project would not be visible in any of the more prominent southerly views from the summit.

## DISCUSSION

### Applicant Consultant DeWan:

*"The presence of the turbines will have an adverse impact on the northerly view from the summit of Tunk Mountain by introducing man-made elements in a largely natural landscape and presenting a contrast in form, line, and color. At viewing distances of 4.9 to 7.2 miles, the turbines will occupy a significant portion of the view looking north. The turbines will appear to be relatively small when compared with the surrounding low hills and background mountains. The turbines will be seen in a broad valley and will not block views of the surrounding lakes or mountains.*

*Conclusion. The Project will have an adverse effect on the northerly view from Tunk Mountain (see Photo Appendix B) by introducing large, man-made elements in a generally natural, scenic landscape. The Project will not be visible from the majority of the overlooks on Tunk Mountain, which are oriented to the south toward Frenchman Bay and the mountains of Mount Desert Island. The Project should not have an unreasonable adverse effect on the scenic character or the uses related to the scenic character of Tunk Mountain."*

*Most of the mountains have a Low Overall Scenic Impact due to their relatively low number of users and distance to the Project. Both Black Mountain and Tunk Mountain were rated as Low tending to Medium due to their more established trail systems, greater elevations, and panoramic views toward the Project. The views from the mountains toward the Project, when present at all, are generally not the most significant views. The more significant southerly views, which include panoramas of Mount Desert Island, Frenchman Bay, and the nearby lakes, will not be affected by the Project.*

- LURC Scenic Consultant Palmer:

*"The Tunk Mountain summit is said to be on private property (DOC BPL 2007, page 20) and apparently the public does not have a legal right of access so it does not qualify as nationally significant scenic resources under 35-A MRSA, § 3451, § 9. However, there is informal access to Tunk Mountain and BPL is investing in trails from the Blackwoods Scenic Byway (Route 182) that pass through the Donnell Pond PRL to access Tunk Mountain (Turner 2011a). It should be noted that the photograph viewpoint used for Photosimulation 2 appears within the boundary of the Donnell Pond Unit in our GIS data."* (LURC staff confirms with DeWan GPS coordinates that PhotoSim 2 view is from BPL land.)

*"Conclusions: While it is recognized that the project will have an Adverse effect, it is concluded that "the project should not have an Unreasonable Adverse effect on the scenic character or the uses related to the scenic character of Tunk Mountain." The reasons given are that most of the views and the most scenic views are oriented toward the coast and away from the project. This is a good start, but how do other Evaluation Criteria contribute to this judgment? ... "Potential Effect on Public Use: The effect is assumed to be similar or slightly greater than the effect documented for Black Mountain—it would not affect the enjoyment or likelihood of returning for most people."*

- Staff Comment: Although the applicant included Tunk Mountain as a whole in its VIA, Palmer concludes that the summit does not qualify as a SRSNS because the record indicates it is owned privately, and there is no evidence in the record that there is a legal right of public access. Staff also notes here that because the coastal scenic inventory that includes this viewpoint is in draft form and has not been formally adopted, it does not appear it would be a SRSNS even if there were a right of public access. In either case, the end result is the same – only the southern portions within the BPL boundary qualify as a SRSNS, which does include the photosimulation 2 location.

#### OVERALL SELECTED COMMENTS REGARDING DONNELL POND UNIT:

- Public Comment of Paul Sheridan 5/8/11:

*"I am in favor of alternative energy projects, but they must be placed sensitively. Our Maine mountains are being threatened with rapid proliferation of industrial wind facilities. Here in Downeast Maine, we already have 169 turbines, either operating, being installed, permitted or under consideration by LURC. And all of these facilities are owned by the same out-of-state corporation, First Wind. I believe that it is past time that LURC begins to look at cumulative impact."*

*"... This latest project is a terrible place for a wind farm, as it consists of 19 turbines, each of them 473 feet tall. These would be the tallest turbines yet in Maine! Additionally,, they will have flashing lights, which will be seen for miles. These huge turbines will be visible from Donnell Pond and Schoodic and Black Mountains, part of a state preserve meant to provide rest and respite for our citizens. They will also be visible from Tunk Mountain, a popular hiking destination, as well as from Mollasses and Spectacle Ponds, popular paddling waterbodies, as well as being high quality ponds, according to state listings. The turbines and cut-and-fill roads will also be visible from Cadillac Mountain and from the high points of the Schoodic unit of Acadia."*

- LURC Scenic Consultant; Palmer:

*"The Donnell Pond Unit is a significant scenic resource that surrounds or abuts several Great Ponds that are significant scenic resources; the Backwoods Scenic Byway also passes through the Donnell Pond Unit. The Bureau of Parks and Lands is investing in upgrading and developing new trails and facilities in the Donnell Pond Unit. The Bull Hill wind turbines will be visible from a very limited area within the Donnell Pond Unit. The "worst case" viewpoint is the eastern summit of Black Mountain. The most visited place in the Unit is Schoodic Beach, which may have very minor views of few turbine blades or tips at its western end. An intercept survey found that the turbines would have a significant scenic impact from Black Mountain's eastern peak, but this location receives relatively few visits in a year. And while the scenic impact seems real, and respondents thought it would have a negative effect on their enjoyment, they did not think that it would keep them from returning to the Donnell Pond Unit.*

*While the scenic impact to visitors on Black Mountain's eastern summit is severe if they are looking toward the proposed project, they have the option to look at a higher rated view. This scenic impact also affects a very limited area; the vast majority of scenic areas within Donnell Pond Unit will not have any visibility of the turbines. As a result the scenic impact to the eastern summit of Black Mountain is judged Medium to High, but not Unreasonably Adverse, and the scenic impact to the whole of the Donnell Pond Unit is judged to be Low."*

- BPL response to Sixth Procedural Order (summarized): Kathy Eickenberg, Acting Deputy Director, Bureau of Parks and Lands, responded to the sixth procedural order on June 14, 2011. Ms. Eickenberg's comments indicate concern that the VIA and review do not provide enough information to fully understand how the proposal will affect users at the Donnell Pond Unit. She describes that this is a special area, with a "cluster of coastal mountains providing high quality remote backcountry camping and extended hiking opportunities with exceptional scenic and wild characteristics unavailable in any other part of the Downeast region." Her memo indicates that relatively few of the Bureau's properties are managed for "backcountry non-mechanized recreation", which attracts users who have different expectations than typical hikers.

Based on the comments, the management plan and future trail development would not be impacted by the proposed development, which are described as connecting a number of the mountains in the unit and also the summit of Tunk Mountain which is partially owned by The Nature Conservancy. The Bureau does not know how use patterns may change as a result of the proposed development.

BPL does not have any additional information on the amount of use, although they are now attempting to gather more information through survey forms at key trailheads and parking areas. BPL could only comment generally on the use patterns and why the type of user and, as a consequence, the expectations of the users, would change depending on the season, day of the week, location, and other factors. There is "very little information about use for backpacking or camping, including where users reside, or how long they may stay. ... Indications are that these users are not presently a large component of use. However, we expect interest in this Unit for backpacking will increase as we continue to develop more trails consistent with the management plan recommendations."

BPL has concerns that the potential second phase of this project (in Eastbrook) is not being considered at the same time; therefore the full impacts are not understood. Ms. Eickenberg also commented on the user survey and said that it could be expected that the results obtained for Columbus Day weekend may not be representative of the users throughout the year and that understanding how users would perceive the

cumulative impacts of interior views from both Black mtn. and Tunk mtn. for phase I and phase II would have been useful.

### **VIEWSHED MAPS**

Several viewshed maps follow – the first is based on topography only, the second and third are topography and vegetation, but with slightly different vegetation height assumptions. Please see below for a discussion of vegetation height assumptions and screening effects assumptions used by DeWan and Palmer and comments by the Intervenor's expert witness Perry Moore.

Click on hyperlink below to display:

**Viewshed Map E.** by Terrance J DeWan & Associates (TJD & A)  
*Visual Impact Assessment Bull Hill Wind Project. 12/7/2010*  
[Exhibit 18, Appendix A of LURC DP #4886 application.](#)

Click on hyperlink below to display:

**Viewshed Map F.** by Terrance J DeWan & Associates (TJD & A)  
*Visual Impact Assessment Bull Hill Wind Project. 12/7/2010*  
[Exhibit 18, Appendix A of LURC DP #4886 application.](#)

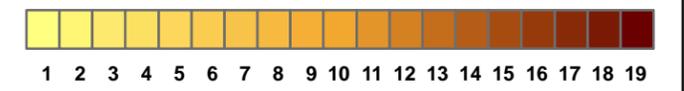
# Map 2 Forested Viewshed for Blade Tip Bull Hill Wind Project

GIS viewshed mapping is a preliminary means of visual analysis. While beneficial for preliminary orientation and investigation, because of data assumptions and omissions, viewshed maps are not a definitive indication of visibility. Potential visibility needs to be confirmed through field investigation and other visualization techniques.

## Legend

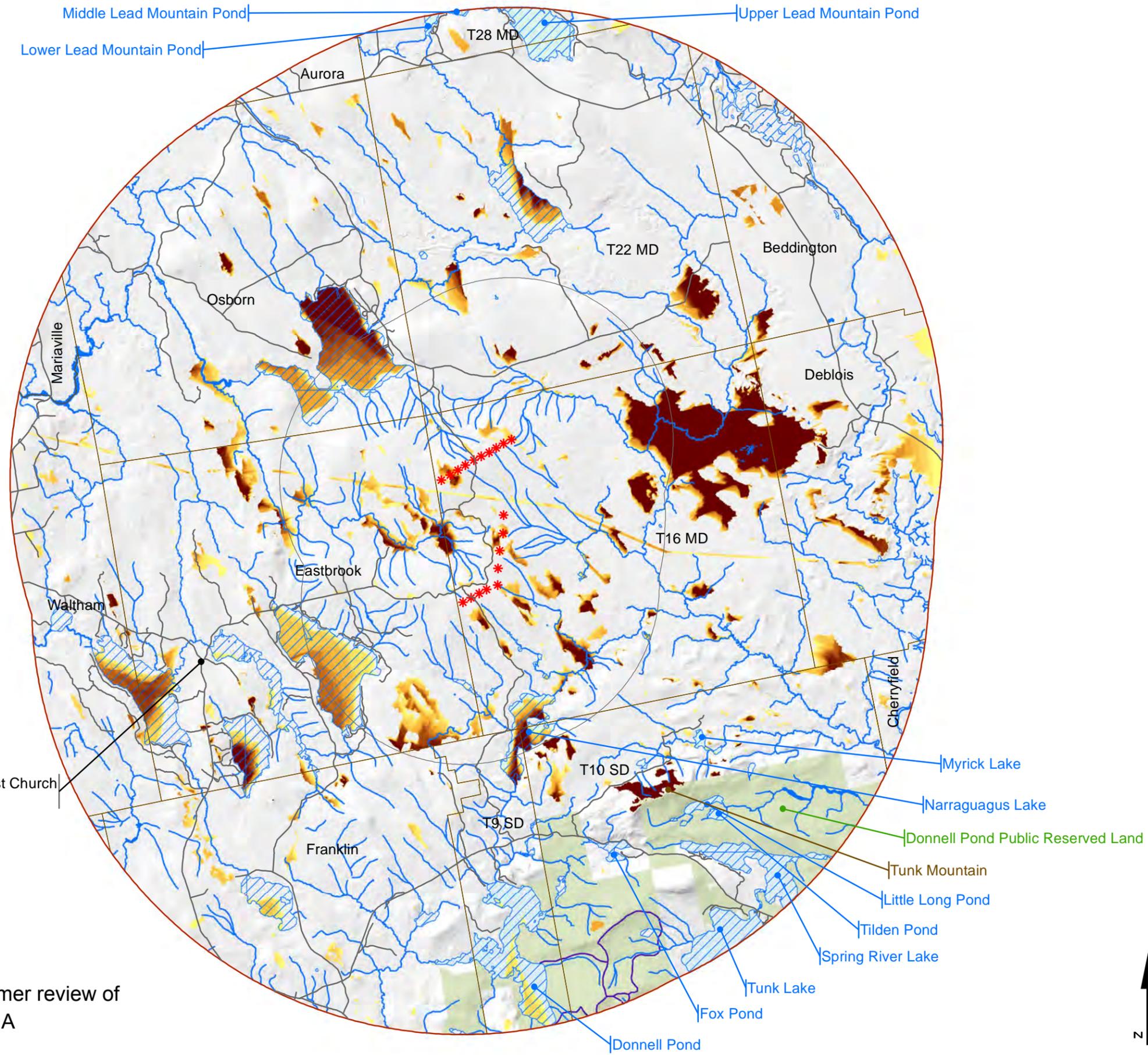
\* Turbine Locations

### Number of Blade Tips Visible

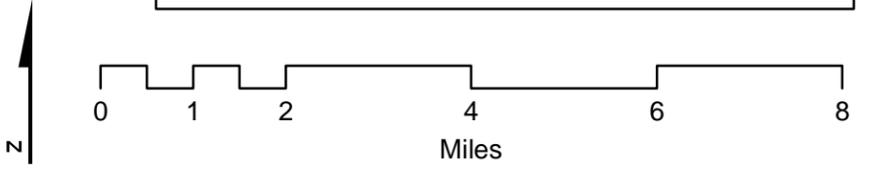


### Scenic Resources of State or National Significance

- Great Ponds
- Public Reserved Land
- Coastal Resource
- National Register of Historic Places



From Palmer review of Dewan VIA



## CONCLUSIONS BY DEWAN AND PALMER

### Conclusions of the VIA Study by DeWan

#### **8.0 CONCLUSION**

*There are several scenic resources of state or national significance within the viewshed of the Bull Hill Wind Project. Within the 8-mile study area the most significant scenic resources are Donnell Pond, Narraguagus Lake, and the mountains in the Donnell Pond Unit.*

*Within this area, the Project will not be visible from any national natural landmarks, federally designated wilderness areas, properties on the National Register of Historic Places, National Parks, State Parks, scenic river segments, or MDOT scenic turnouts. Throughout the majority of this area, views of the wind turbines ("generating facilities") are blocked by topography and roadside vegetation.*

*The associated facilities for the Project (i.e., the access road, the underground electrical collection system, the aboveground electrical transmission line, and the O&M facility) will have limited impact on views from scenic resources of state or national significance. The associated facilities are located in actively managed timberland that is generally out of view from the surrounding area. The associated facilities will not be of a location, character, or size to cause an unreasonable adverse visual affect on the scenic character of the study area.*

*The visual impact assessment examined the criteria established by the Maine Wind Power Law: i.e., the context, significance, existing public use, viewer expectations, project impact, and the potential effect on public use for each of the scenic resources of state or national significance. This information was used to make a determination of whether the project would significantly compromise views from these resources such that it would have an unreasonable adverse effect on its scenic character or the existing uses related to its scenic character. While a low to medium overall scenic impact on several of these resources is anticipated, the Bull Hill Wind Project should not have an unreasonable adverse impact on scenic values and existing uses of scenic resources of state or national significance.*

### Conclusions of the Scenic Review by Palmer

(Some of this material is duplicated in the individual resource descriptions above)

#### **5. Summary and Conclusions**

*This review evaluates the adequacy of the Visual Impact Assessment: Bull Hill Wind Project... Maine (TJD&A 2010). Overall this VIA is accurate and clearly presented. Additional fieldwork and analysis completed for this review. A framework based on the Wind Energy Act's evaluation criteria is systematically applied to all of the state and nationally significant scenic resources. While there are slight difference, the Summary of Evaluation Criteria presented above is similar to the Summary of Evaluation Criteria presented in the VIA (TJD&A 2010, page 38). This suggests that there may be general agreement about the Evaluation Criteria and how to apply them. The difference may simply be due to a lack of information. However, there does appear to be some real differences about how to synthesize the criteria into a final judgment of the Overall Scenic Impact.*

*The scenic impact to the state and nationally significant scenic resources is Adverse at some locations, and may be Very Adverse at a very few specific viewpoints. However, these areas are very limited and the Overall Scenic Impact from the proposed Bull Hill is not appear to be Unreasonably Adverse within the guidance given by the Wind Energy Act.*

- *Of 14 scenic resources of state or national significance, 8 will have no scenic impact because there is no visibility of the project.*
- *Whether the wind turbines will be visible from Myrick Lake is in question and I was unable to do the fieldwork necessary to verify the visual condition. However, any visibility will be of a modest segment of a relatively few turbines. In addition, Myrick Lake is anticipated to have very low use. Together these two Evaluation Criteria lead to the judgment that the Overall Scenic Impact is Low.*
- *The scenic resource where the turbines will be visually most dominant is Narraguagus Lake. However this is moderated by an anticipated low use of Narraguagus Lake for activities where scenic value is a central part of the experience. As a result I judged that the Overall Scenic Impact is Medium, and well within the level of scenic impact anticipated by the Wind Energy Act.*
- *Donnell Pond is in a different situation. The turbines will not be visually dominant on Donnell Pond, actually the communications tower at the northern end of the lake has as much visual prominence as the turbines when they are most visible. However Donnell Pond is a more significant scenic resource and receives much more use than Narraguagus Lake. As a result, I also judged that the Overall Scenic Impact is to Donnell Pond is Medium.*
- *The Donnell Pond Unit is a significant scenic resource that surrounds or abuts several Great Ponds that are significant scenic resources; the Backwoods Scenic Byway also passes through the Donnell Pond Unit. The Bureau of Parks and Lands is investing in upgrading and developing new trails and facilities in the Donnell Pond Unit. The Bull Hill wind turbines will be visible from a very limited area within the Donnell Pond Unit. The "worst case" viewpoint is the eastern summit of Black Mountain. The most visited place in the Unit is Schoodic Beach, which may have very minor views of few turbine blades or tips at its western end. An intercept survey found that the turbines would have a significant scenic impact from Black Mountain's eastern peak, but this location receives relatively few visits in a year. And while the scenic impact seems real, and respondents thought it would have a negative effect on their enjoyment, they did not think that it would keep them from returning to the Donnell Pond Unit. While the scenic impact to visitors on Black Mountain's eastern summit is severe if they are looking toward the proposed project, they have the option to look at a higher rated view. This scenic impact also affects a very limited area; the vast majority of scenic areas within Donnell Pond Unit will not have any visibility of the turbines. As a result the scenic impact to the eastern summit of Black Mountain is judged Medium to High, but not Unreasonably Adverse, and the scenic impact to the whole of the Donnell Pond Unit is judged to be Low.*
- *Tunk Mountain is a scenic resource that has been identified as having state or national significance. The Bull Hill wind turbines will have a stronger visual presence than they had from Black Mountain, because they will be much closer. However it is expected that users will focus on the superior view toward the coast (it is a coastal visual resource after all). In addition, Tunk Mountain has no formal access and use is thought to be very light. This may change because the Bureau of Parks and Lands is planning on upgrading and developing trail access, parking and other facilities supporting Tunk Mountain. The combination of very high visual presence from a highly ranked scenic resource and low current use with survey results that indicate that the impact would not affect the likelihood that users would return lead to the judgment that the Overall Scenic Impact is Medium to High, a very Adverse scenic impact, but not Unreasonable.*

## Conclusions challenged by CCRHC Intervenor

### Visual Impact Review (The Moore Companies) *LURC Development Permit DP 4886 Blue Sky East LLC Bull Hill Wind Project, 25 April 2011.*

From the report submitted by the Intervenor CCRHC's Scenic Consultant Perry Moore:

We have reviewed the *Visual Impacts Assessment* and Appendices submitted by Terrence J. DeWan and Associates (TJDA) and dated December 7, 2010 and the review thereof by James F. Palmer (JFP) dated March 21, 2011.

We concur with most of Mr. Palmer's comments regarding the need for specifying the assumptions inherent in the vegetation factor relating to determining intervisibility throughout the viewshed. However, we find that the overall vegetation assumptions do not accurately model the effective screening (or, lack thereof) provided by vegetation in the viewshed.

1. A quick view of the area on Google Maps utilizing satellite imagery depicts large areas of vegetation types not indicated the TJDA report:
  - a. Harvested and regenerating cover types contain significantly sized parcels that have been effectively clear-cut, or have been replanted with seedlings that do not yet provide screening (e.g. south and east of Narraguagus Lake)
  - b. Blueberry barrens (especially those along Maine RT 182)
  - c. Large wetlands dominated by low, marshy vegetation (Hooper Heath, etc.)
2. There does not appear to be consideration given to the fact that many of the deciduous areas, regardless of height or stem density provide little or no screening from late October through the end of April. (See Figure 1.0)

Perry Moore's report also challenged aspects of the vegetative screening height and density, particularly that abutting the Blackwoods

It is our conclusion that while the TJDA assessment does represent a significant body of earnest effort toward modeling the visual impacts of the proposal, there remain sufficient questions regarding the accuracy of the model and veracity of the conclusions.

We submit that the Applicant should provide the following:

1. A "balloon test" where in the actual intervisibility of the scenic byway and the Beech Knoll/Heifer Hill turbines can be confirmed; and,
2. The TJDA assessment model be modified to include greater detail regarding the vegetation types described and an additional viewshed map modeled for the times of year when deciduous vegetation does not provide effective screening of the project.

Without these two items, it is our opinion that the visual assessment provided by the Applicant does not provide the Commission with reliable information that can be utilized to make findings under MRSA 35-A §3452.

Figure 1.0. Photo acquired along Maine Route 182 facing north, upslope from TJDA Study Area Photos 79-81. Observe the difference in transparency of vegetation during different times of the year.



Mr. Moore makes 3 main points: 1) the vegetation assumption of the applicant and the data used to determine cover types are inadequate, 2) balloon tests should be used and 3) screening from deciduous forests is over estimated.

1) vegetation assumptions and cover type data:

From Palmer's review p. 15: *In addition to investigating visibility limited only by landform, the VIA conducted a vegetated viewshed analysis that assigned vegetation heights to forested wetlands and recently harvested areas, as previously described in section 2.3 Visibility Analysis. For this review, [meaning Palmer's review] the forested visibility analysis assumes a dense 40-foot high visual screen where forested land cover occurs—that is deciduous, evergreen and mixed forest, **but not in areas recently harvested or wetlands**. Forty feet is commonly used by professionals in the northeast as a conservative, but reasonable forest canopy height in a visibility analysis.* (emphasis added)

Dewan Testimony at public hearing: *Well, if you recall, as part of Jim Palmer's work, he evaluated or counted the number of turbines that would be visible from the scenic resources that we've identified. And he counted them both in many different ways. One using topography only, one using the vegetation as we had defined it, and then using a much more conservative approach in which case the wetland forest, light partial cut, heavy partial cut and regeneration was assumed to be a value of zero. And he compared those numbers to the numbers that we had come up with to identify how many turbines would be visible from*

*each of these places. And the numbers that he arrived at with a very conservative number were identical with the numbers that we came up with looking at -- making different assumptions about the height of the re-vegetated areas of the landscape.*

2) Balloon test:

Exchange between Lynne Williams and Terry Dewan during the public hearing:

*Now, on another topic. We raised in our -- somewhere the idea of a balloon test.*

*A Yes, you did.*

*Q And why do you object to a balloon test?*

*A We don't object to it, we've used them a lot, but not on wind power projects. And part of the problem, of course, is inherent to the site. These are windy sites. And when you raise a balloon up, you know, to the height of the top of the blade, you know, 476 feet, it's going to be subjected to a lot of the winds. When we were out there yesterday, the wind was going, you know, 15 or so miles an hour. And it's very difficult to get an accurate read about where the balloon is. It can be a very effective tool, don't get me wrong. But we feel that the use of the -- the modeling that we have through the combination of Google Earth, through cross-sections, through Wind Pro and other pieces of software gives us an accurate representation of where things are going to be visible and not visible from.*

3) Screening from deciduous forests.

While staff understands that Mr. Moore is making a larger point about the potential visibility of turbines through deciduous forests, we wish to note that route 182 is not a SRSNS. We would also refer back to the quote from Palmer's analysis under 1, above, regarding professional standards for modeling. Further, Palmer indicates in his review (p. 14) that:

*Visibility analysis determines whether a line-of-sight exists between two specified points. Typically a geographic information system (GIS) is used to map the viewshed from which specified targets are visible. In principle this is an objective exercise in geometry highly suited to a computer application. In practice however, since the data are only approximations of the actual condition and may include errors or require assumptions, the resulting viewshed maps are best considered a preliminary analysis of potential visibility under simplified conditions. The maps are useful for providing a preliminary investigation of the overall potential visual impact, and particularly for comparing alternatives. If potential visual impacts appear to exist for significant scenic resources, they need to be confirmed through field investigation and other visualization techniques.*

Finally, what follows is the Dewan pre-filed rebuttal to Mr. Moore (5/6/11)

Moore as quoted in Dewan pre-filed rebuttal: *"There does not appear to be consideration given to the fact that many of the deciduous areas, regardless of height or stem density provide little or no screening from late October through the end of April."*

Dewan Pre-filed Rebuttal: *"This concern is misplaced. The Viewshed Map E assumes no vegetative screening. Viewshed maps are used in preparing VIA's to begin to understand the extent of a project's visibility. The basic viewshed map (in this case, Viewshed Map E Topography) is designed to answer the question "Where might someone see a turbine(s) if there were no trees, buildings, or other obstacles to block the view?" While informative, these maps grossly over-represent project visibility because they do not*

*consider vegetation or other obstacles. Viewshed Map F Topography and Vegetation is used to address the question "Where would someone see a turbine if trees were present during leaf-on conditions?"*

*Viewshed maps are not the final word on visibility but rather are used as guides to inform field investigations. In the case of Bull Hill, TJD&A used Viewshed Map E Topography (without vegetation) to make preliminary determinations of visual impacts on scenic resources of state or national significance. Field visits, in conjunction with Viewshed Map F Topography and Vegetation, enabled us to refine the extent of potential visibility.*

*Viewshed Map E Topography represents the worst case scenario (without any trees to block the view), and thus it can be used to judge where loss of leaves may allow Project views during leaf-off conditions. As such, there is no need to do any additional modeling to evaluate the screening effectiveness of deciduous vegetation."*

## SELECTED OVERALL COMMENTS:

NRCM written public testimony 5/25/11:

*"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 pollution and climate change. Our comments below are primarily focused around the statutory criteria for granting of a development permit, specifically regarding scenic resources. ... After reviewing the proposed Bull Hill wind project, we believe that it is a close call whether this project meets the criteria of the law and strikes the appropriate balance between protecting Maine's North Woods and developing wind power. We neither support the project nor oppose the granting of a permit, but would like to provide some information that may be useful to the Commission. There would be significant impacts on scenic resources of statewide or national significance and existing uses of those resources, including Donnell Pond, Narraguagus Lake, and the Donnell Pond Public Land Unit including Black, Caribou, and Tunk Mountains. If this project were to be approved, we believe that conditions would need to be included in the permit in order to mitigate these adverse impacts and/or the project should provide tangible benefits for land conservation, and recreational and scenic benefits. We do not have specific recommendations for mitigation or tangible benefits, however we recommend that they should be relevant to the impacts of this project—i.e. recreational and scenic benefits."*

*"NRCM is very disappointed that the Bureau of Parks and Lands has been instructed not to file any comments in this and other development projects before LURC. Staff at BPL are the state's foremost experts on the public lands they oversee – what features they include, what type of experience they provide to users, and what the management goals are. We believe that BPL staff could provide valuable information to the LURC Commission on this and other proposed development projects about the likely impacts of proposed development both on the public lands and on recreational uses those lands are intended to provide. BPL staff are also knowledgeable about recreational uses on other lands, both private and those managed by nonprofits, as a result of their work with a variety of partners on issues ranging from back country trails to snowmobile and ATV trails. We encourage the Commission to specifically request comments from BPL, or, in the alternative, invite BPL staff to a LURC meeting to discuss potential impacts from development projects (both this one and future ones of all types.)"*

Public hearing testimony of Mary Ann John (3/17/11):

*"Again, thank you for this forum. I've learned a lot here today listening to all the testimony. I have several points I'd like to make: I was particularly taken with the concern for the potential destruction of our pristine, natural remote areas with the siting of this large industrial complex. Specifically the Narraguagus Lake, Myrick Pond and Donnell Pond areas. Hancock County is the fastest growing county in the state. Ellsworth is the fastest growing town. Lots of people in the area will be finding these natural scenic spots that today we consider "remote" or "little used by the public". These natural beauties should be there—unspoiled—for them to find. Secondly, Molasses Pond is an area enjoyed by many in Eastbrook—full-timers and vacationers. Even though Molasses Pond doesn't qualify as scenic enough for state guidelines, it provides recreation for many from all over the state and beyond. At an informational meeting held in Eastbrook by First Wind, we were told that the turbines would certainly be seen from the west side of the pond. Molasses Pond is the major tax base for Eastbrook. Unhappy campers there would not bode well for our town. And lastly, I want to repeat to you what Dave Fowler (project manager for the Bull Hill Project) told us last May. First Wind plans 48 turbines for the Bull Hill area, including Eastbrook and Twp. 16--not just 19. I think the Commission should know that and consider it when deliberating. Hearing of all the unknowns and uncertainties that all the technical people have mentioned today, I can only ask that you deny this permit application."*

Public Testimony of David Boulter 5/17/11:

*"The nearly 500' height of the wind turbines dwarfs the hills upon which they are proposed, and the proposed turbine strings will result in them being seen for many miles away. Of particular concern are the towers that are less than 4,000 feet from existing residences. I recognize the LURC's statutory constraints with respect to scenic impacts and others will or have raised the scenic concerns in more detail at the hearing than I can present, so I defer to them. I would add, however, that the lack of a professional assessment of the scenic impact on the State's Donnell Pond Unit by the Bureau of Parks and Lands seems a crucial missing element to the commission's understanding of the scenic impact of the turbines.*

*The Donnell Pond area is a fantastic natural resource and a wonderful asset to this region of Maine. In his questions and comments earlier, Commissioner Lavery was right on point about the lakes assessment and high scenic value resources. The ranked values (such as outstanding scenic resource) are intrinsic values, unrelated to large population uses, not relative values, as suggested by the applicant in its testimony. The applicant's conclusion that Donnell Pond unit outstanding scenic resource value should be discounted due to lower public use is seriously flawed. For example, Class 6 remote ponds have outstanding value due to the inherent characteristics they exhibit (e.g. their remoteness, fishery resources and experience and scenic values) even though they are difficult to access and receive comparatively little use. Using the applicant's logic, remote ponds would be an ideal area in which to place highly visible wind turbines because the low public use would result in "low to moderate" impact to those values. This reasoning would turn the lakes assessment and the values associated with the lakes on their head."*

## E. SCENIC RESOURCE USER SURVEY

### DESCRIPTION:

In order to gain a better understanding of public use of the Donnell Pond Unit and public reaction to the proposed Project, Market Decisions, a market research and survey firm in Portland, Maine, was engaged to develop and conduct a survey of recreational users and to evaluate the results. The survey was administered on Saturday, October 9th, Sunday, October 10th and Monday, October 11th of Columbus Day Weekend, 2010. The weather was clear and mostly sunny on all three days, with minimal cloudiness but a great deal of wind. Interviewers conducted interviews from 10am – 4pm on Sunday, from 9am – 5:15pm on Saturday, and from 10am – 4:30pm on Monday.

### METHODOLOGY:

- Market Decisions interviewed 81 people during the three-day Columbus Day weekend 2010 (October 9, 10, 11), and administered a relatively short (27-question) survey.
- It was given in two locations; people were intercepted at Schoodic Beach parking area and on top of Black Mountain.
- Multiple adults from each party were invited to participate as were willing. Children were not interviewed.
- Respondents at the top of Black Mountain were asked to rate the scenic value looking north (looking inland) and looking south (looking towards the ocean).
- Then they were asked to look at a photograph of the same view looking towards Bull Hill with simulated images of turbines inserted and rate what impact they feel turbines would have on the view.
- This set of queries was also made involving the beach on the southern end of the pond, known locally as Schoodic Beach, looking north toward where proposed turbines that would be visible.
- In both cases a follow-up question allowed the respondent to explain their impact rating. These were collected and listed in the survey results report. They were used to assist in an analysis of user expectations and impacts.
- The images presented were each approximately 9.5" by 19.5". The survey questions, images, and results are in the applicant's application Exhibit 18 Appendix D: *Bull Hill Wind Project Intercepts Research Report* by Market Decisions October 2010.

### RESULTS OF USER SURVEY:

(Survey citations from DeWan's Exhibit 18 of application see Appendix D for detail and lists of non-numeric responses to questions.)

- *People who participated in the Columbus Day intercept survey rated a photograph of the view from Donnell Pond looking north (without the Project in place). On a seven point scale (where 1 is the lowest scenic value and 7 is the highest), Donnell Pond rated a 5.5, with 20% giving it a 7.*
- *Potential Effect on Public Use. The addition of the Project to the view dropped the respondents' rating of the scenic value of the view from Donnell Pond from 5.50 to 4.62 on a 7-point scale (where 7 is the highest scenic quality). The majority of the respondents (51%) did not change their ratings of the scenic value of the pond once they were shown the photosimulation. On average, the rating of the pond dropped by 0.88 point.*

- *Most respondents (75%) indicated that the addition of a wind farm would not affect their likelihood of returning to the Donnell Pond Unit as a whole. In addition, 5% of the respondents indicated that they would more likely return, while 3% said that they would be less likely to return.*
- *With regards to the use of Donnell Pond, most respondents (78%) indicated that the addition of the Project to the view would not affect their use of Donnell Pond for water activities such as boating, canoeing, kayaking, swimming, or fishing. In addition, 4% of the respondents indicated that they would more likely return to Donnell Pond for water activities.*
- *The intercept survey supports the Management Plan's observations about the relative popularity of Schoodic Mountain. Of those hikers interviewed, the majority (72%) were planning on hiking Schoodic Mountain, while 19% were climbing Black Mountain. An additional 23% listed Schoodic Beach as their destination and 17% responded with "other". Among those hikers on Black Mountain, 63% reported that they had visited the mountain at least once in the past year, half of whom had hiked it more than once.*
- *When asked about their reasons for being in the Donnell Pond Unit, people offered a wide range of reasons, including hiking, foliage watching, spending time with family and company, enjoying the views, and exercise. While many people reported that the view was a reason for being in the Donnell Pond Unit, it was not the reason most often given.*
- *People who participated in the survey were asked to rate the views looking both north (inland, toward Bull Hill and Narraguagus Lake) and south (toward the ocean and Mount Desert Island). On a seven point scale (where 1 is the lowest scenic value and 7 is the highest), the view to the north was rated a 6.26, with 41% giving it a 7. The view to the south rated an average of 6.93, with 93% giving it a 7. When the same people were asked to rate a photograph of the northerly view, the average was very similar, 6.24.*
- *Potential Effect on Public Use: The addition of the Project to the northerly view from Black Mountain dropped the respondents' rating of the scenic value of the view from 6.26 to 4.32 on a 7-point scale (an average decrease of 1.91). Most respondents (45%) indicated that their enjoyment of coming to Black Mountain would not be affected (rating of 4) by a change in the current views looking north that would include the proposed wind project. 4% stated the change in current views would have a very positive effect on their enjoyment (rating of 7) while 10% stated the change in current views would have a very negative effect on their enjoyment (rating of 1). Overall, 54% indicated that the Project would have no effect or would improve their enjoyment in returning. 47% indicated that it would affect their enjoyment upon returning.*
- *Potential Effect on Public Use: The addition of the Project to the northerly view from Tunk Mountain is expected to have an effect that is similar to, or slightly greater than (due to the increased proximity), that described above for Black Mountain, i.e., most respondents indicated that the Project would not affect their enjoyment of coming to the mountain; a small number (4%) stated the Project would have a very positive effect on their enjoyment; and 10% stated the Project would have a very negative effect on their enjoyment.*

## DISCUSSION OF USER SURVEY:

Applicant Consultant Market Decisions:

*"Results: 129 hikers, including adults (105) and children (24), were observed during the survey. In all, 81 interviews were completed among adult hikers that were hiking Black Mountain. With such a high "response rate" (81 hikers interviewed of 105 adult hikers observed) we can say that the collected data is representative of the hikers on the mountain during the survey period. We cannot say whether the data would be the same for other days. Additional data would be necessary to make more definitive conclusions."*

Palmer Review

*"The developer is to be commended for retaining a reputable survey research firm to conduct a user survey at a sensitive viewpoint. However, the survey primarily addressed one type of user (hiker), at a significant distance from the project (nearly 8 miles), for primarily one type of scenic resource (mountain summit in a state park), at the very end of the hiking season. There is little to no information about the scenic sensitivity to grid-scale wind power projects for other users (e.g., people fishing, boating, swimming, ice skating, skiing, attending an outdoor interpretive program, stopping at a scenic turnout, or using a historic site), at closer distances, during other seasons, and other types of scenic resources. ..."*

*"The survey seems to work well to provide information to address some of the Evaluation Criteria:*

- *Criteria E.1 Nature of user activities*
- *Criteria E.2 Effect on continued use (i.e., likelihood of returning)*
- *Criteria E.2 Effect on enjoyment of scenic resources*
- *Criteria F Scope and scale of potential effect of views (i.e., apparent scenic impact)*

*However there are other Evaluation Criteria that currently are not being addressed by the survey data and should be:*

- *Criteria C Expectations of the typical viewer*
- *Criteria E.1 Extent (i.e., numbers of users) and duration of user activities"*

## SELECTED COMMENTS ABOUT USER SURVEY:

Intervenor CCRHC witness Renata Moise pre-filed testimony:

The following are portions of the comments about the Columbus Day Weekend 2010 User Survey from the sworn affidavit by Renata Moise of Hancock, Maine. They are dated April 25, 2011 and were submitted with the pre-filed testimony filed by Attorney Williams, the Intervenor CCRHC. Ms. Moise had been hiking on the east side of Black Mountain in the Donnell Pond Unit and encountered a user survey worker near the Schoodic trailhead on the walk from the pond's popular southern beach. Provided here for reference the fifth paragraph of Renata Moise testimony begins;

*"As we reached the parking area again on foot, I walked with my husband and the husband of the couple we were with over to the young man with the clip board. Had I not known why he was there, I'm not sure the purpose of why we were being asked to take a survey would have come out. Only two of us could take the survey at a time, and the survey was some what lengthy, 10 or 15 minutes. It was getting colder. My husband and his friend said they would take the survey first. In retrospect, I was interested to see that many more men than women took the survey-I think it was because a man was asking questions in an*

*isolated location, and since only two could take the survey at a time, in a larger mixed group, the men would tend to go first. Since the survey was lengthy, it would be logical that after the first two took it, the group would move on, as not to stand around waiting. I fully intended to take the survey-however, as the survey was begun, and I listened to the questions which were asked "I became more angry. The numbering system (I have never taken a survey which asked me to grade things between one and seven) also was confusing. I waited for my husband to be shown a photo of what the windmills would look like from the top of Schoodic and Black, but we were only shown what they would look like from the beach at Donnell, because that was where we had just walked to. I felt that the fact that we would be able to see the tops of the windmills from the isolated beach at Donnell (a very popular wilderness beach with state camping spots which can be used for free in the summer), meant that these windmills and roads, clearings, etc. would certainly be visible very obviously from the tops of both mountains. I did not take the survey myself for two reasons first" I was extremely upset by the phrasing of the questions and felt I would not be able to get across my strong feelings, and because it was late in the day, cold, and my fellow hikers did not want to wait another 15 minutes for me."*

*"This survey should have been conducted through the summer, when many more people visit these areas. Beach goers, swimmers and boaters should have been asked how their experience of Donnell Pond would be impacted by the long row of windmills straight across from them on the other side of the wilderness lake beach. I felt that I was not really listened to when I asked to see photos of Schoodic and Black and was not shown those photos. I was so upset with what I felt was an underhanded survey method, that I asked the young man for his card, and have kept it since, as a reminder of this issue."*

*DeWan Rebuttal to pre-filed testimony of Renata Moise (5/6/11):*

*"We disagree with the statements made by Ms. Moise concerning the intercept survey developed by Market Decisions, Inc., which was used to gather information from recreational users in the Donnell Pond Unit. It is important to note at the outset that Ms. Moise did not take the survey and her comments regarding the development or implementation of the survey are conjectural in nature.*

*Ms. Moise's specific comments are identified ... and the response follows.*

*A. "The man made roads and clearings would be obvious, and the wind farm would forever change the experience from the top."*

*Persons taking the intercept survey were shown a photosimulation of the view from Black Mountain with the Bull Hill Wind Project in place. Professionally prepared photosimulations are commonly used in visual impact assessments to give reviewers a realistic picture of future conditions. Dr. Palmer has strongly encouraged the use of photosimulations in intercept surveys as a means of testing public reactions to wind power developments. This simulation, as well as the one from Donnell Pond that was also used in the intercept survey, is included in the application.*

*B. The numbering system (I have never taken a survey which asked me to grade things between one and seven) also was confusing.*

*Again, Ms. Moise did not take the survey and did not receive specific instructions on how the survey was administered. The survey was developed by Market Decisions, Inc., a Portland survey and research firm that specializes in every aspect of survey design and administration, including: survey methodology, sampling, methodology and design, development of research goals and objectives, questionnaire design, quality control before and during the data collection process, as well as data analysis and presentation. ...*

*The use of a one to seven scoring scale is standard protocol in public opinion surveying. In his review, Dr. Palmer noted, "The developer is to be commended for retaining a reputable survey research firm to conduct a user survey at a sensitive viewpoint." Palmer Report at p. 43.*

*C. "This survey should have been conducted through the summer, when many more people visit these areas."*

*Approximately 25% of the people surveyed use the Donnell Pond unit for swimming, picnicking and canoeing/kayaking. The two primary swimming beaches are either beyond the 8-mile limit (Schoodic Beach) or are oriented to the south and will have no view of the Bull Hill Wind Project (Redmans Beach). The majority, 75% of those surveyed, were hikers. While a summer survey might have resulted in higher use numbers, there is no reason to believe that the information gathered during the Columbus Day holiday is not reflective of the typical use of the area. Again, survey information is used as one of several tools to identify typical user expectation and experience in a given area but is not the sole basis for informing our conclusions.*

*D. "Beach goers, swimmers and boaters should have been asked how their experience of Donnell Pond would be impacted by the long row of windmills straight across from them on the other side of the wilderness lake beach."*

*The survey specifically asked interviewees about their use of the Donnell Pond Unit for activities other than hiking and those opinions are reflected in the surveys. Ms. Moise is incorrect in her assertion about long rows of visible turbines at the beach. As noted in the Bull Hill Visual Impact Assessment and photosimulation 6 taken from Schoodic Beach, the blades from one or two turbines would be visible from the western end of the beach at a distance of 8.01 miles."*

Public written testimony submitted by Alan Michka (3/31/11)

*"The applicant has failed to demonstrate that the project will not have an unreasonable adverse impact on scenic resources of state significance. The applicant repeats several times that the project will have adverse impacts on scenic resources of state significance, but then reaches an unsubstantiated – and perhaps unverifiable – conclusion that the adverse impacts are not unreasonable. A great deal of text is used to portray the visual impact assessment as a formulaic methodology that yields an objective, if not quantifiable, conclusion. It's an alchemy that magically transforms what can only be subjective into purely objective. The reasonable person knows intuitively that this is impossible. Unfortunately, statute forces us to contrive, at great hazard, a method for reaching a mathematical solution for something that cannot be defined with numbers.*

*There is no number of impacted businesses, homes, hikers, campers, or boaters above which an impact is unreasonable, and below which it is reasonable. Likewise, there is no distance value beyond which a visual impact is reasonable, and so on. These numbers are arbitrary and any value defining these transitional points – if they exist – resides only in the eyes and minds of the individual. Quite simply, visual impact is personal and not quantifiable. The project's visual impacts should be considered unreasonable because they violate the very premise upon which the Land Use Regulation Commission was created – that the jurisdiction was a unique resource to be preserved and protected from the very type of intrusive and non-essential development proposed by the Bull Hill wind project."*

BSE Comments from Post-hearing Brief:

*As noted in the testimony, Blue Sky conducted a user survey in the Donnell Pond Unit over Columbus Day weekend in 2010. This study shows that even at locations where users found that views of the Project would be severe, the Project was not likely to adversely impact their enjoyment of the resource or their likelihood of returning to the resource. For hikers on Black Mountain, most respondents (74%) stated that the visibility of the Project would have no effect or a minor effect on their likelihood of returning. For users of the Schoodic Beach area of Donnell Pond, 92% stated the Project would have no impact or a minor impact on their enjoyment or likelihood of returning. In addition, although 3% said that views of the turbines would make it less likely they would return, 4-5% said the views would make it more likely they would return—a positive impact.*

*As noted in Blue Sky's June 15, 2011 response to Commission questions, the conclusions in the Market Decisions Report are consistent with numerous other recreational user surveys that show that views of wind power projects do not interfere with recreational users use and enjoyment of these resources. In particular, a 2010 study of users of Baskahegan Lake, in the vicinity of the Stetson Wind Power Project, shows that visibility of the Stetson project, from a lake that receives relatively high recreational use, has not had any impact on the public's continued use and enjoyment of that Lake. When asked about conditions that interfered with use and enjoyment of the Lake, survey participants complained about impacts from residential camp development and human impacts to campsites, but not a single survey participant identified the visual impacts from the turbines as having any impact on use and enjoyment of the lake.*

**F. PROJECT LIGHTING:****DESCRIPTION:**Application Exhibit 9.0 LIGHTING:

The applicant indicates that the project lighting plan has been submitted to the FAA for approval. The applicant further indicates that the following are a summary of the FAA guidelines that must be followed for wind turbine projects.

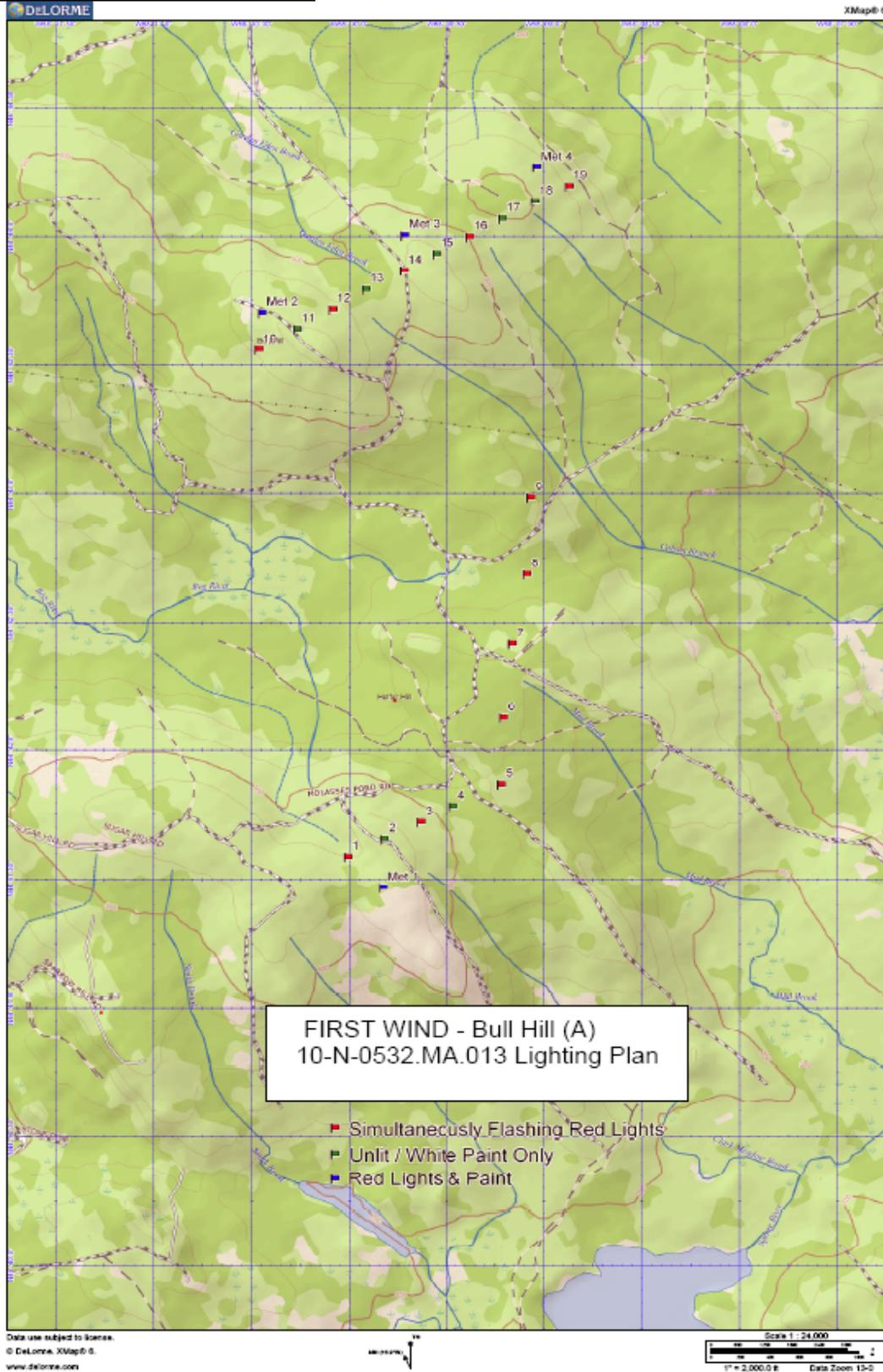
FAA Guidelines: these are used in placement of obstruction lighting for the turbines:

- Lights will be placed on the turbines positioned at each end of the line of turbines.
- Lights will be placed on the highest turbines.
- Lights will then be placed to provide the minimum number of lights that still maintains a safe standard of one lit turbine at least every half mile (i.e., no more than 2,640 feet between lit turbines).
- Lighting will be synchronized.
- A high concentration of lights, in close proximity, will be avoided.

Other Lights: According to the application, the only other permanent lighting that may be associated with the project will be entry lights at stairs located at the base of each turbine. These may or may not be utilized. This lighting would meet the requirements of LURC's Land Use Standard, 10.25.F.

Construction Lighting: According to the application, some temporary nighttime lighting may be required during construction. Turbine erection must be done in lower wind conditions. Therefore, methods such as nighttime lighting are anticipated to provide as much time as possible to take advantage of favorable construction conditions. If required, portable (i.e., trailer-mounted) flood light systems will be used to facilitate nighttime tower erection. Approximately three of these portable flood light units would be used at each tower location.

FAA Application *Lighting Plan and Map:*



BSE Consultant DeWan from Visual Impact Assessment:

- Lighting for the project will follow the Federal Aviation Administration (FAA) recommendations for aviation safety.
- Red lights will be mounted on the top of some of the nacelles in accordance with an FAA approved lighting design. Under normal operations, the lights will be synchronous, red, flashing, with a slow-on, slow-off profile.
- The permanent meteorological towers will also have FAA approved lighting.
- By using white turbines, which offer a considerable amount of visual contrast for pilots, the FAA will not require daytime lighting.
- Turbine warning lights are designed to be brightest when viewed from above or at the same horizontal plane to make them most apparent to pilots.
- Nighttime lighting is required by FAA regulation to concentrate emitted light to a beam that is 3± degrees of horizontal; the intensity of the light diminishes below the horizon, which minimizes impacts on surrounding land uses.

BSE Response to Sixth Procedural Order:

*Questions from LURC: Identify specifically which structures will be lighted. Has the proposed lighting plan been approved by the FAA? Beyond the written description in each resource section of the Visual Impact Assessment (VIA), is there further information about the scenic impacts of the proposed lighting plan? In answering this question, please consider how best to convey this information – a response might include a diagram of which structures will be lighted, a topographic viewshed map of the area in which lights could be seen, a visual simulation, if possible, or other comparable means of providing the information.*

*Response: Blue Sky has submitted a Federal Aviation Administration Lighting Plan as Exhibit 9 to the Application (the "FAA Lighting Plan" or "Plan"). The FAA Lighting Plan was developed to ensure compliance with FAA regulations, 14 CFR part 77. As shown on the Plan turbines 1, 3, 5-10, 12, 14, 16, and 19 will have red aviation warning lights that will be lit at night. In addition, the met towers will have red lights. As further described in the Visual Impact Assessment prepared by Mr. DeWan, and included in Exhibit 18 of the Application, the red lights will be synchronous, pulsing, with a slow-on, slow-off profile. The FAA Lighting Plan showing which turbines will be lit (plus the met towers) can be found at the end of Exhibit 9 of the Application, and has been attached hereto as Exhibit C. The FAA issued its No Hazard Determination approvals for the turbines on December 23, 2010.<sup>1</sup>*

*Applicant has also evaluated where lit turbines will be visible from scenic resources of state or national significance and those are identified as follows:*

*Narraguagus Lake. The number of lights visible will vary, depending upon the observer's position on the surface of the water. No lights will be visible at the northern and western edge (where the summer camps are located) and south of the pronounced peninsula at mid-lake. At the southern end there are two areas where 10 - 14 lights would be visible. Between 5 and 14 lights would be seen over the majority of the lake.*

*Myrick Lake: Lights would not be visible from the surface of the lake.*

*Donnell Pond: The lights would not be seen over the majority of the pond. Up to 5 lights would be visible in a narrow band at mid-lake and in the southern lobe, although some of these may be at a distance greater than 8 miles. At Schoodic Beach, one turbine light may be visible at a distance of slightly more than 8 miles.*

*Black Mountain: Up to 5 turbine lights and one met tower light would be visible within 8 miles. It is unlikely that many hikers will be on the mountain after dark.*

*Tunk Mountain. All 12 turbine lights and the 4 met tower lights would be visible to a hiker on the mountain from the one location that affords a northerly view. However, it is unlikely that there will be many, if any hikers on the mountain after dark.<sup>2</sup>*

*Footnote 1 The met tower approvals have not been received as of this filing.*

*Footnote 2: A photograph depicting the view of night lighting from the Rollins project was submitted in an attempt to provide the Commission with a visual simulation of the nighttime visual impact of the Bull Hill project. This photograph is in reality a time-lapsed photograph judging by the movement of the stars in the sky and it greatly exaggerates the reflectivity of the light on the surface of the lake.*

## G. Analysis

### Ratings for SRSNS:

Staff concludes that there are essentially 4 SRSNS with views of the turbines that should be given a hard look in determining this project's impact on scenic character and uses related to scenic character:

- Myrick Lake
- Narraguagus Lake
- Donnell Pond
- All viewpoints in the Donnell Pond and Tunk Lake Units (including the southern slope of Tunk Mountain)

The effects on **Myrick Lake** are expected to be low.

The effects on **Narraguagus Lake** are expected to be medium. There will be high visibility in one direction, but low expected use because there is no public boat launch on a lake surrounded largely by private property. It is rated as a relatively inaccessible, developed lake (management class 7). It received a significant, but not outstanding, scenic resource rating. The presence of development and its resource class rating may lead the Commission to conclude that this is a resource that, while important to some users, probably does not create as much of an expectation of remoteness as, say, a remote pond. So, lacking a strong sense of remoteness and lacking high user numbers, and given the Wind Energy Act expectation that visibility, in and of itself, does not create an undue adverse effect, the Commission would need to find that there was a particular segment of users who would be unduly affected if it wished to deny the application based on the effects at Narraguagus Lake.

The effects on **Donnell Pond** are expected to be medium. It is rated as an outstanding scenic resource, and is a relatively accessible class 4 (high value, developed) lake. This lake has significant public use and its shoreline is largely part of the Donnell Pond Public Lands Unit. Between one and 8 turbines would be visible from 19% of the lake. Photosimulations 4 and 5 present views from two sections of the lake. This is not a remote resource, and the Commission will need to assess whether the large numbers of users who visit the day-use facility to kayak, swim, canoe, boat and fish will be unreasonably affected. This assessment should be made taking into account the user survey information as well as the photosimulations and viewshed maps.

**All viewpoints within the Donnell Pond and Tunk Lake Units** are considered as a SRSNS. However, due to topography and vegetation, most of the area of the Unit will not have a view of the turbines. Several mountains within the unit will have no views; however Tunk Mtn. and Black Mtn. will have views at the summits.

The summit of **Tunk Mtn.** is largely on private property; however there is one peak of the multi-peak summit where the BPL property line just overlaps the area with views. This area is shown as photosimulation 2. BPL indicates that there is relatively light use, but it is a backcountry setting and as such there may be an expectation of remoteness. Nevertheless, the applicant claims that the dramatic views from Tunk are towards the sea. User surveys were not conducted for this mountain, and it is a matter of dispute as to what degree the survey of users of Black Mtn. would apply. DeWan rated the impact as low-medium and Palmer rated it as Med-Hi. Palmer was taking into account the mountain's rating in the Downeast Coastal Scenic Inventory, which as discussed above has not been formally adopted but is a helpful tool with respect to describing the

nature of the resource. In the case of Tunk Mtn., there are several issues – 1) most of the mountain is not considered a SRSNS, 2) it is lightly used 3) the small portion that is a SRSNS and is lightly used is probably used for backcountry recreation, 4) the dramatic views are facing away from the turbines, and 5) all turbines would be visible from a distance of about 5 miles. The Commission will need to balance all of these factors to arrive at a decision.

**Black Mtn.** is at the outer edge of the 8-mile radius. It appears to be more heavily used than Tunk, but less heavily used than Schoodic (which is outside the relevant area as defined by the Wind Energy Act), and to have overall moderate use. The user survey conducted in October indicates a reduction in enjoyment, but no affect on the likelihood to return if the development were built. According to DeWan and Palmer, the 5 turbines within 8 miles of the viewpoint will occupy a horizontal angle of approximately 6 degrees, and all 19 turbines will be seen from 7.8 to 10.5 miles away. Photosimulation 3 is from this location. Again, the preferred views are expected to be toward the coast. And again, DeWan rates the impact as low-medium and Palmer rates it as Medium-Hi. This mountain affords views of all the turbines (although not all within 8 miles) but from a significant distance. Most of the time the trail is not affected – the impact is at the summit. The analysis clearly requires consideration that 1) will be negative impacts 2) at a moderately used site that 3) is in located in a unit with relatively little overall impact, but 4) that the impact is to one of the most prominent peaks and 5) will be at the edge of the 8-mile radius. The Commission will need to balance all of these factors to arrive at a decision.

#### **Adequacy of Model Assumptions:**

This is a highly technical question that relies on an understanding of the reliability of various data sources and the appropriateness of making certain assumption regarding vegetation heights. The Commission's consultant Dr. Palmer re-ran the data based on more conservative estimates of vegetation height than the applicant and included that information in his review. He also notes that viewshed analysis is an approximation and should be used as a screening tool only with "worst-case" views from particular resources investigated in the field, which was done with this project.

In addition, the Commission can get a sense of what the potential difference is between "bare ground" and "vegetated ground" by reviewing the viewshed maps in the DeWan VIA and the Palmer review and comparing the various configurations of the data.

The remaining issues seem to be the appropriateness of a balloon test and the screening value of deciduous vegetation. The balloon test, based on testimony at the hearing, appears to be impractical in windy areas at heights of several hundred feet, especially above forested areas. The example that was presented regarding the deciduous vegetation issue was when traveling at speed along a roadway and having a "fencepost" effect. There are no roadways in this project that are considered SRSNS. The screening effect of deciduous vegetation in the VIA and the review appears to be based on professional standards, but the applicant acknowledged some loss of screening during leaf-off periods. The applicant indicates that field visits were used to verify areas of potential impact as a follow-up to the viewshed maps.

**Adequacy of User Information:**

There is limited information available about use of the Public Lands Units. The user survey was conducted at one time of year that presumably gives some information about users, but may not be representative of all types of users at all times of the year. However, the question here is whether there is substantial information, taking into account the limited areas of the unit that will have views of the turbines. We have a general idea about which resources are used heavily or lightly, and there are some reasonable assumptions that can be made about the types of users based upon the evidence in the record. The one resource in the unit that was not covered in the survey, Tunk Mtn., is mostly out of the study area, and may, in any event, be too lightly used to obtain a good sample of user expectations.

There is no survey information presented for Narraguagus Lake or Myrick Lake, and so the assumptions made in the VIA and the review about use are the primary information sources available to the Commission.

**Night Lighting:**

The applicant has described in writing the potential visibility of lights from the specific SRSNS. However, it is unclear to what degree these resources will be used during low-light or dark conditions. The rule designating the Donnell Pond Unit indicates that the designation includes "All viewpoints in the Donnell Pond and Tunk Lake Units". The applicant's VIA indicates that the current campsites in the Donnell Pond Unit will not have views of the turbines because of their "orientation, topography, and riparian vegetation", however BPL's comments indicate that the public is allowed to camp anywhere provided there is no campfire. And they comment that "Indications are that these users are not presently a large component of use". There does not appear to be any specific information about night hiking or boating activities.

The applicant has not furnished any commitments regarding use or future retrofit for alternative lighting schemes such as radar-activated lighting (which is currently not FAA-approved). This is a difficult issue to evaluate because of the relative lack of information, and because the evidence in the record indicated there is minimal night use of the types of SRSNS present here.

## H. Questions and decision tree

1. In view of the assumptions about vegetation height and screening made by the applicant in the VIA, is there sufficient information to evaluate the scenic impacts?
  - a. If no, then the Commission should consider whether the applicant has met its burden and thus whether the Commission has sufficient information to proceed.
  - b. If yes, then the Commission can proceed to the next question.
2. Based on user surveys, descriptions of the use of the area, BPL comments, and public comments is there sufficient information to assess the "expectations of the typical viewer" and the "extent, nature, and duration of potentially affected public uses of the scenic resource of state or national significance"?
  - a. If no, then the Commission should consider whether the applicant has met its burden and thus whether the Commission has sufficient information to proceed.
  - b. If yes, then the Commission can proceed to the next question.
3. Based on the user information and the visual impact information in the record, as a whole do the impacts to the SRSNS create an unreasonable adverse effect on scenic character and daytime use related to scenic character?
  - a. If yes, then the Commission should deny the application
  - b. If no, then the Commission can proceed to the next question.
4. If the Commission includes in its visual impact analysis the scenic impacts associated with the views of the project from Tunk Mountain, as a whole, does that change your answer with respect to question 3?
5. Is the "extent nature and duration" of night use of the SRSNS that have views of the turbines such that users are likely to experience an unreasonable adverse effect as described in the statute?
  - a. If yes, then the Commission should deny the application
  - b. If no, then the Commission can determine that the visual criterion is met and proceed to the other criteria.