

## **Environmental Management Plan**

## Environmental Management Plan (EMP)

In 2008, an environmental monitoring plan was reviewed and accepted as complete by the Villenova Town Board, as New York State Environmental Quality Review Act (SEQRA) Lead Agency (see Appendix I of the 2008 DEIS [Appendix A of this SDEIS]). The Environmental Management Plan (EMP) for the Ball Hill Wind Project, which will be submitted as part of the Final EIS, will be an update to the 2008 plan and will also include the Invasive Species Management Plan (ISMP) contained in this appendix.

Ball Hill will comply with all New York State guidelines, department regulations, and best management practices, including, but not limited to, the New York State Department of Agriculture and Markets (NYSDAM) *Guidelines for Agricultural Mitigation for Windpower Projects*; the New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities; and the New York State Department of Environmental Conservation Standards and Specification for Sediment and Erosion Control.

The EMP will specify objectives for environmental protection controls and best management practices, including requirements and procedures, regarding:

- Construction Schedule;
- Construction Sequence;
- Clearing Practices;
- Wetland and Waterbody Protection and Restoration;
- Wetland and Waterbody Crossing Methodologies;
- Noise Control;
- Dust Control;
- Erosion Control;
- Waste Management, including Chemicals/Fuels;
- Environmental Supervision;
- Restoration;
- Herbicide Usage;
- Agriculture Protection and Restoration;
- Site Access;
- Maintenance and Protection of Traffic; and
- Invasive Species (see ISMP included below).

The EMP will evolve during the permitting process. As permits and approvals are issued, those permits and approvals as well as any conditions associated with said permits and approvals will be incorporated into the EMP. Additional environmental monitoring and best management practices are included throughout the SDEIS, including in Section 1 under “Environmental

Monitoring.” Accordingly, the complete scope of all environmental monitoring that will be conducted will follow all such permits, approvals and conditions as well as the commitments made in the SDEIS and FEIS. Proper contact information for environmental representatives and organizational reporting structures also will be included in the FEIS, and will be updated once construction contractors and consultants are determined.

# **Invasive Species Management Plan**

## **Ball Hill Wind Project Draft Invasive Species Management Plan**

The Ball Hill Wind Project (Project) will result in disturbance to wetlands and riparian areas during construction and operation of the Project. Wetland habitats and riparian zones are susceptible to a variety of biological stressors and direct impacts as the result of disturbance to existing hydrology, soils, and vegetation. A major threat to these systems following perturbations in the existing ecology is invasive species. Invasive plant species considered as high risk of colonization within the Project Area are purple loosestrife (*Lythrum salicaria*), common reed or phragmites (*Phragmites australis*), Japanese knotweed (*Polygonum cuspidatum*), smooth buckthorn (*Rhamnus frangula*), garlic mustard (*Alliaria petiolata*), and Eurasian water milfoil (*Myriophyllum spicatum*). Phragmites, Japanese knotweed, and garlic mustard were identified within the Project Area during field surveys. Inadvertent introduction of these species into an area through the movement of topsoil, fill, and construction equipment is possible.

Japanese knotweed was observed within the Transmission Line construction disturbance right-of-way (ROW) within and to the north of 2008 field-delineated wetland W105. This wetland is shown on wetland mapping as part of the Ball Hill Wetlands and Waterbodies Report in Appendix G of the 2008 Draft Environmental Impact Statement (DEIS). Japanese knotweed was also observed in several locations throughout the Project Area outside of areas of construction disturbance, but it may also potentially occur within the vicinity of construction disturbance.

Phragmites and garlic mustard were also observed in several locations throughout the Project Area along roadsides and disturbed areas. These species have the potential to occur within the construction disturbance ROW.

This Invasive Species Management Plan (ISMP) describes the best management practices (BMPs) Ball Hill will implement to ensure that its activities do not increase the presence of the invasive species, within federal and the New York State Department of Environmental Conservation (NYSDEC) regulated wetlands, riparian areas, and NYSDEC regulated adjacent areas falling within the Project Site. The Project Site contains all lands in the Project Area that have the potential to be permanently or temporarily disturbed as a result of the construction or operation of Project facilities. For the purposes of this discussion, the term federal and NYSDEC-regulated area (FDRA) will be used to refer to those wetland, riparian, and NYSDEC-regulated adjacent areas that are specifically covered by NYSDEC and United States Army Corps of Engineers (USACE) permits and that will be temporarily or permanently impacted as a result of constructing and operating the Ball Hill Wind Project.

The goal of Ball Hill's invasive species management efforts will be to prevent the introduction and spread of invasive species listed above to new locations resulting from Project activities within the FDRA and a 0% net increase in the areal coverage of invasive species resulting from Project activities within the limits of the FDRA ("Baseline Survey," as described below) for two years post-construction. The implementation of these BMPs, coupled with active monitoring and

intensive management for two years post-construction in coordination with regional NYSDEC staff, will help ensure the success of this ISMP.

As the first step in implementing the ISMP, during the siting studies and wetland delineation surveys for the Project, Ball Hill will continue to conduct a comprehensive survey of the wetlands, riparian areas, and NYSDEC-regulated adjacent areas within the FDRA to document the presence of purple loosestrife, phragmites, Japanese knotweed, smooth buckthorn, and Eurasian water milfoil (collectively referred to as “invasive species”). This survey establishes a pre-construction measure of percentage areal coverage of invasive species.

### **Best Management Practices**

- 1. Identification of Infected Areas.** The FDRA will be inspected for the presence of invasive species prior to disturbance by an environmental monitor. Areas containing an infestation within the limits of the FDRA will be clearly identified in the field using highly visible marking tape. A baseline survey report will be prepared and submitted to both NYSDEC and the USACE in advance of construction activities. Ball Hill will request that NYSDEC and the USACE document receipt of, and concurrence with, the Baseline Survey.
- 2. Inspection of Fill Sources.** NYSDEC has indicated that many gravel mines across the state contain infestations of invasive species. Prior to the initiation of construction, Ball Hill will identify satisfactory locations for fill and/or construction material including top soil, sand, gravel, rock, and crushed stone, from commercial mines and other off-site locations. Identified locations shall be inspected by Ball Hill environmental staff for the above-mentioned invasive species and measures will be taken to prevent the inadvertent transport of propagules or seeds to Ball Hill’s FDRA. Preventive measures may include opting for different fill sources, or eliminating all invasive species before using the fill source, if possible.
- 3. Invasive Plant Material Removal and Transportation.**

Ball Hill will follow New York State’s Invasive Species Regulation (6 New York Codes, Rules, and Regulations [NYCRR] Part 575) regarding the transportation of identified invasive species.

***During Construction.*** Where populations of invasive species are encountered in the FDRA during construction, these plants will be spot-treated with herbicides using a NYSDEC-approved application method prior to removal of the plant material. All chemical treatments will be undertaken in strict accordance with all manufacturer guidelines and federal, state, and local laws. Ball Hill will coordinate with NYSDEC regarding disposal options for specific species as they are identified. With most species and where practicable, the dead plant material will be segregated from the soil and transported to a designated off-site location for disposal using a truck with a cap or topper to securely fasten the load and prevent loss of the material during transport. If the coverage of the invasive species within the FDRA is greater than 75%, removal of the topsoil to a depth of 16 inches may be considered, depending on site conditions. This topsoil would be replaced with hydric soil or topsoil with

**Ball Hill Wind Project  
Draft Invasive Species Management Plan**

a high organic content from a source inspected and deemed free of invasive species. Pre-construction contours will be restored. The infected soil will be removed from the site and disposed of in a suitable upland location (an acceptable distance away from another wetland) or in an approved sanitary landfill based on consultation with NYSDEC. Stripping of topsoil will not be the preferred method of invasive species removal when the species can be counted as individuals and do not dominate an area since this method of control could potentially create a greater disturbance to adjacent unaltered wetland or riparian areas, inadvertently creating conditions more favorable for invasive species or for the establishment of an undesirable plant community. If Eurasian water milfoil, a submerged aquatic plant, is found within the FDRA, it will be removed by hand and placed into 3-millimeter (mm) thick black plastic contractor bags or in a dumpster depending on quantity for composting or landfill disposal depending on the time of year. This disposal method will prevent alteration of the bed of shallow aquatic habitats and excessive suspended sediments.

**Post Construction.** If invasive species are found post-construction in the FDRA after restoration of these areas, herbicides will be used to spot treat the area of infection. All chemical treatments will be undertaken in strict accordance with all manufacturer guidelines and federal, state, and local laws, and will be coordinated with regional NYSDEC staff. The dead plant material will be removed and disposed of in an approved sanitary landfill. This area will then be reseeded using the mix or equivalent described in Section 5. A cover crop, such as annual rye, may be used as a temporary stabilizing agent depending on site conditions and time of year.

- 4. Equipment Sanitation.** All earth-moving machinery and excavation equipment (motorized or hand-powered) will be inspected and cleaned of extraneous soil and debris prior to entry to the Project Site.

Earth moving and excavation equipment used in an FDRA where invasive species are present will be cleaned free of debris and soil within an upland area near the infected area prior to the removal of the equipment from the FDRA. Equipment cleaning will consist of a combination of mechanical removal of excess dirt and washing with a mobile pressure washer. This will help prevent the transport of invasive plant seeds or plant propagules to unaffected areas within the FDRA. Wash stations will be incorporated as needed into construction laydown areas, as needed. Appropriate erosion and sediment control measures will be implemented to prevent degradation of water quality during this process.

- 5. Restoration.** Portions of the FDRA temporarily impacted during the construction of the Project will be restored to pre-construction contours and revegetated immediately following the completion of regulated activities at each site. An appropriate native seed mixture shall surveys. All seed will be from local sources, to the extent possible dependent upon seed availability, and applied at recommended rates.

An FACW (Wet Meadow Mix) seed mixture, or an equivalent approved seed mix, , will be used in the restoration of all wetland areas and riparian zones impacted by construction activities. This seed mixture contains the following plant makeup:

**Ball Hill Wind Project  
Draft Invasive Species Management Plan**

Percentage	Botanical Name	Common Name
20.00	<i>Elymus virginicus</i>	Virginia Wild Rye
19.00	<i>Carex vulpinoidea</i>	Fox Sedge
6.00	<i>Scirpus atrovirens</i>	Green Bulrush
5.50	<i>Verbena hastate</i>	Blue Vervain
5.00	<i>Heliopsis helianthoides</i>	Ox-Eye Sunflower
3.50	<i>Glyceria striata</i>	Fowl Mannagrass
3.00	<i>Carex lurida</i>	Lurid/Shallow Sedge
3.00	<i>Glyceria grandis</i>	American Mannagrass
3.00	<i>Juncus effuses</i>	Soft Rush
2.50	<i>Carex scoparia</i>	Blunt Broom Grass
2.50	<i>Mimulus ringens</i>	Square Stemmed Monkey Flower
2.50	<i>Onoclea sensibilis</i>	Sensitive Fern
2.50	<i>Vernonia gigantea</i>	Giant Ironweed
2.00	<i>Carex comosa</i>	Cosmos/Bristly Sedge
2.00	<i>Eupatorium fistulosum</i>	Joe Pye Weed
2.00	<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed
2.00	<i>Helenium autumnale</i>	Common Sneezeweed
2.00	<i>Iris versicolor</i>	Blue Flag
2.00	<i>Scirpus polyphyllus</i>	Many Leaved Bulrush
1.50	<i>Carex lupulina</i>	Hop Sedge
1.50	<i>Juncus tenuis</i>	PA Ecotype Path Rush, PA Ecotype
1.00	<i>Carex stipata</i>	Awl Sedge
1.00	<i>Geum laciniatum</i>	Rough Avens
1.00	<i>Glyceria canadensis</i>	Rattlesnake Grass
1.00	<i>Senna hebecarpa</i>	Wild Senna
1.00	<i>Solidago patula</i>	Rough Leaved Goldenrod
0.50	<i>Carex tribuloides</i>	Bristlebract Sedge
0.50	<i>Lilium superbum</i>	Turk's Cap Lilly
0.50	<i>Penthorum sedoides</i>	Ditch Stonecrop
0.50	<i>Thalictrum pubescens</i>	Tall Meadow Rue

- 6. Restoration Monitoring.** Restoration monitoring of the FDRA for invasive species will be integrated into the wetland mitigation site monitoring program for the first two years post-construction in coordination with regional NYSDEC staff. This monitoring will be conducted through routine inspections conducted by Ball Hill environmental staff, and biannually during the growing season. Ball Hill will update the baseline survey report, as necessary, to document any increased areal coverage of invasive species in the FDRA, and provide any such updates to NYSDEC and the USACE.
- 7. Coordination with Agencies.** If aerial coverage of the invasive species in the FDRA increases over the Baseline Survey level, on an aerial percentage basis, Ball Hill will coordinate with NYSDEC and the USACE to confirm whether it is the result of Project or non-Project-related activities. If such increase is determined to be the result of Project activities, remedial actions will be undertaken immediately.

**Ball Hill Wind Project  
Draft Invasive Species Management Plan**

- 8. Restoration Objective.** This ISMP shall be considered successful when a 0% net increase in the areal coverage of invasive species from Project activities in the FDRA is documented during the 2-year monitoring period, compared to the Baseline Survey.
- 9. Restoration Monitoring Reports.** Ball Hill will provide NYSDEC and the USACE with a restoration monitoring report detailing the status of invasive plant species within the FDRA and all measures taken to meet the success standards by December 31 of the monitoring year. If the restoration monitoring report demonstrates a 0% increase areal coverage of invasive species in the FDRA prior to the end of the two-year monitoring period, Ball Hill will formally request NYSDEC and the USACE to concur and deem this condition of the permit to be met and allow invasive species monitoring to cease. If the goal of this ISMP is not met within the first two years post-construction, Ball Hill will review its control efforts with NYSDEC and the USACE, submit a revised ISMP plan, and implement applicable control actions for an additional monitoring term.
- 10. Emerald Ash Borer (EAB) Containment.** Ball Hill will follow EAB regulations and quarantines laid out by the NYSDEC and the New York State Department of Agriculture and Markets (NYSDAM; <http://www.dec.ny.gov/animals/47761.html>). The Project Site lies close, potentially, partially within the Sheridan quarantine boundary, so specific guidelines regarding restricted zones and the movement/disposal of “regulated articles” will be strictly enforced. Regulated articles include: ash wood, ash logs, ash firewood, ash nursery stock and wood chips (only between April 15 and May 15 of each year). In order to limit/cease the spread or introduction of EAB to and/or from the Project Site, the movement of removed/cut ash trees will follow the restricted zone guidelines. In accordance with New York State regulations, any regulated article(s) exiting the Sheridan restricted zone during the non-flight season (September 1 through April 30) will have proper compliance agreements or limited permits issued by the NYSDAM.