



Conceptual Wetland Mitigation Plan

**Conceptual Wetland Mitigation Plan
Noble Allegany Windpark
Towns of Centerville, Rushford,
Arcade and Freedom
Allegany, Wyoming and Cattaraugus
Counties, New York**

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Introduction

This report provides a conceptual plan to mitigate for permanent impacts to wetlands resulting from construction and operation of the Noble Allegany Windpark (the Project) in the Towns of Centerville and Rushford (Allegany County), Arcade (Wyoming County), and Freedom (Cattaraugus County), New York. This report has been prepared to support Noble Environmental Power, LLC's (Noble's) Joint Permit Application submitted to United States Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC). Ecology and Environment, Inc. (E & E) delineated and evaluated wetlands and waterbodies within the Project site regulated by the USACE under Sections 401 and 404 of the Clean Water Act (CWA) and by NYSDEC under the Article 24 - Freshwater Wetlands Act and Article 15 - Protection of Waters Program. Jurisdictional wetland determinations will be confirmed by the USACE and NYSDEC in the spring or summer of 2008. Specific details of the wetland delineation are provided in Appendix G of the Draft Environmental Impact Statement (DEIS) prepared for the Project.

This document provides background information on existing conditions in the Project Area and the concepts that will be applied to the design of a final mitigation plan. Noble has developed this mitigation plan as a conceptual document to demonstrate the adequacy of suitable wetland mitigation opportunities in the Project Area to offset potential Project impacts. Noble will develop a final mitigation plan in consultation with the USACE and NYSDEC prior to the Project implementation.

1.1 Project Description

The Allegany Windpark, will be an approximately 100.5-megawatt (MW) wind energy facility (the Project) in the Towns of Centerville, Rushford, Arcade, and Freedom in Allegany, Wyoming, and Cattaraugus Counties, located in western New York State. The Project consists of two distinct portions: generation and transmission.

The generation portion of the Project consists of the following:

- Installation and operation of 67 wind turbines with a capacity of 100.5 MW within an approximate 7,453-acre area in the Towns of Centerville and Rushford (Windpark);
- Construction and use of approximately 14 miles of access roads (11.5 miles in the Town of Centerville and 2.5 miles in the Town of Rushford) that will connect each wind turbine to a town or county roadway to allow equipment and vehicle access for construction and subsequent maintenance of the facilities as well as access by emergency services if needed; and
- Construction and use of an electrical collection system that will allow delivery of electricity to the substation in the Town of Centerville as part of the transmission portion of the Project. Where practical, the electrical collection system will be installed underground along the same right-of-way (ROW) corridor as the access roads.

The transmission portion of the Project consists of the following:

- Construction and use of a new substation in the Town of Centerville on a 5-acre parcel east of Smith Cross Road and north of Dow Road, that will tie into a new 115-kilovolt (kV) transmission line. The substation footprint will be approximately 150 by 350 feet;
- Construction and use of an approximately 8.5-mile overhead 115-kV transmission line, sited within a 177-acre area in the towns of Centerville, Arcade and Freedom, to transfer the energy to a new substation that will be constructed by the Town of Arcade in the Town of Arcade to provide access to the grid. Approximately 3.5 miles of the new transmission line will be within a new ROW referred to as Transmission Section 1, and the remaining 5 miles will be within the existing Noble Bliss transmission ROW referred to as Transmission Section 2.

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Mitigation Goals and Objectives

Within the regulatory framework, compensatory mitigation can only be considered after the Project proponent demonstrates avoidance and minimization to the extent possible. Following the review and acceptance by agencies regarding the alternatives analysis conducted to demonstrate minimization of impacts, compensatory mitigation must be developed to offset Project-related impacts. With respect to the Noble Allegany Windpark, unavoidable permanent wetland impacts will result from a network of interconnecting roads and associated electric connection and transmission lines required to access the Project Area and connect the Windpark to the local electric grid. No turbine locations will result in permanent wetland impacts. Based on USACE guidance and NYSDEC guidance, mitigation can be completed either financially, in the form of in lieu fee mitigation, land acquisition for preservation purposes, regional mitigation banking, or in the form of a specific wetland restoration, creation, or enhancement project developed in conjunction with the proposed Project. Depending on agency input and local availability of existing mitigation opportunities, the mitigation may also take the form of a consolidated mitigation plan, combining several of the available mitigation options.

Impacts from implementation of the Project will result in the permanent fill of a total of 0.06 acre of wetland. The Project will also result in the permanent conversion of 4.19 acres of forested wetland to shrub/scrub or emergent wetland. While the Project is located within the Upper Genesee and Cattaraugus 8-digit hydrologic unit code (HUC) watersheds, the majority of the permanent affects on wetlands are associated Transmission Section 1, located within the Cattaraugus watershed.

Wetlands under Federal Jurisdiction

Of the total of 0.06 acres of wetland that will be impacted by the permanent placement of fill, 0.03 acres is federally jurisdictional. The Project will also result in the permanent conversion of 3.99 acres of federally jurisdictional forested wetland to shrub/scrub or emergent wetland (see Table 2-1).

Wetlands under State Jurisdiction

Several of the federally jurisdictional wetlands impacted are also regulated under New York State wetland regulations. As such, they are dually regulated and the

Table 2-1 Impacts to Federally Jurisdictional Wetlands *****

		Construction Disturbance*	Temporary Impacts (Areas to be Restored to Preconstruction Contours following Construction) **	Permanent Impacts (Permanent Placement of Fill)***	Permanent Conversion (Permanent conversion of forested wetland to shrub/scrub or emergent wetland)****
Generation					
Turbines	NA	NA	NA	NA	NA
Access Roads	0.18	0.15	0.03	NA	NA
Underground Collection	0.51	0.51	NA	NA	NA
Overhead Collection	0.56	0.56	0.00008	0.03	0.03
Total	1.25	1.22	0.03	0.03	0.03
Transmission					
Transmission Section 1	4.05	NA	0.0005	3.96	NA
Transmission Section 2	1.39	NA	0.0005	NA	NA
Total	5.44	0.00	0.001	3.96	3.96
Project Total	6.69	1.22	0.03	3.99	3.99

Key:

*Construction disturbance includes the acreage of all wetlands disturbed during construction activities, including all temporary and permanent impacts related to clearing, grading and placement

** Temporary impacts are defined as wetlands that will be affected by filling or excavation where the Project Site will be restored to preconstruction contours and elevation. Wetland mats will be used to avoid federally jurisdictional impacts with the 30 ft travel corridor for transmission, therefore no temporary federal impacts are reported for the transmission line.

***Permanent impacts refer to permanent placement of fill in wetlands that result in a loss of wetland acreage. Fill for overhead collection and overhead transmission result from placement

****Permanent conversion, is used to indicate the permanent loss of forest cover in wetlands that are currently forested but will be maintained over the life of the project to prevent reestablishment

***** For Federal Jurisdiction is assumed if there is any evidence of a surface water connection to a waterbody that eventually flows into a traditional navigable waterway (TNW). Final jurisdictional determination will be made by USACE subsequent to field verification

NA = Not applicable

2. Mitigation Goals and Objectives

state jurisdictional wetland impacts discussed here are a subset of the federally jurisdictional wetlands and do not represent additional wetland impacts. Permanent fill impacts to wetlands under the jurisdiction of NYSDEC are limited to 0.0006 acres resulting from the placement of poles for overhead collection and transmission. The Project will also result in the permanent conversion of 3.39 acres of forested wetland under state jurisdiction, and 3.85 acres of upland adjacent area under state jurisdiction to shrub/scrub or emergent wetland (see Table 2-2).

2.1 Mitigation Goals and Objectives

Goals and objectives of the proposed mitigation project are derived from the lost or impaired functions and values of the on-site wetlands due to the Project activities. Mitigation is implemented to offset the adverse effects on the benefits of a wetland and to compensate for the lost wetland acreage.

No wetland creation is proposed as part of this mitigation. The project will result in 0.03 acre of permanent fill impact on federally jurisdictional wetlands (associated with poles and roads) of which 0.0006 acres is also under state jurisdiction (associated with poles). The final mitigation plan, to be developed during the course of the Joint Application permitting process, will address the site-specific cumulative loss of biological function provided by the impacted wetlands, as well as any identified public value. The loss of function is primarily due to the permanent conversion of forested wetland to non-forested wetland that will result from Project construction and operation. Consistent with USACE and NYSDEC guidance, the goal of the mitigation plan will be to enhance and preserve existing wetland functions, values, and ecological integrity at a specific mitigation area in order to adequately offset the loss of function and value within jurisdictional wetlands resulting from Project implementation.

The wetlands impacted by permanent conversion of forested cover are of moderate to large size with moderate to high vegetative diversity. The primary function affected is wildlife habitat. The impacts on these wetlands will result from the conversion of forested communities to shrub scrub and/or herbaceous communities primarily due to ROW clearing and maintenance along the transmission line. This conversion will result in a long-term shift in wildlife habitat functions. The conceptual design components that will be implemented to offset permanent conversion impacts in these wetlands include:

- Tree planting within and in the vicinity of an existing wetland to compensate for function(s) lost by the conversion of forested wetland to non-forested wetland; and
- Preservation of existing wetlands within the mitigation area via the establishment of conservation easements.

Table 2-2 Impacts to Wetlands potentially under State Jurisdiction *****

Generation	Temporary Wetland Impacts (Areas to be Restored to Preconstruction Contours following Construction) **		Permanent Wetland Impacts (Permanent Placement of Fill)***	Permanent Wetland Conversion (Permanent conversion of forested wetland to shrub/scrub or emergent wetland)****
	Construction Disturbance*	Preconstruction Contours following Construction) **		
Turbines	NA	NA	NA	NA
Access Roads	NA	NA	NA	NA
Underground Collection	0.08	0.08	NA	NA
Overhead Collection	0.42	0.42	0.00008	NA
Total	0.50	0.50	0.00008	NA
Transmission				
Transmission Section 1	3.40	0.95	0.0005	3.39
Transmission Section 2	0.51	0.51	NA	NA
Total	3.91	1.46	0.00000	3.39
Project Total	4.41	1.96	0.00060	3.39

Key:

* Construction disturbance includes the acreage of all wetlands disturbed during construction activities, including all temporary and permanent impacts related to clearing, grading and placement of fill.

** Temporary impacts are defined as wetlands that will be affected by filling or excavation where the Project Site will be restored to preconstruction contours and elevation. For NYSDEC jurisdictional purposes, the temporary placement of fill along the transmission line would include the temporary placement of wetland mats within the 30-foot travel corridor for equipment access. No other placement of fill will occur within NYSDEC regulated wetlands along the transmission line.

*** Permanent impacts refer to permanent placement of fill in wetlands that result in a loss of wetland acreage. Fill for overhead collection and overhead transmission result from placement of poles.

**** Permanent conversion, is used to indicate the permanent loss of forest cover in wetlands that are currently forested but will be maintained over the life of the project to prevent reestablishment of trees.

***** State Jurisdiction has been assumed if there is a surface water connection to a mapped NYSDEC Wetland or if the wetland is thought to exceed 12.4 acres in size. The actual size of each wetland could not be determined due to access constraints. Final jurisdictional determination will be made by NYSDEC subsequent to field verification.

NA = Not applicable

2. Mitigation Goals and Objectives

Noble does not plan to acquire the land required to implement this mitigation project. Easement agreements would be sought with landowners for the mitigation site. Noble is currently in discussions with landowners within the Project Area regarding development of on-site mitigation and a conservation easement on the mitigation area. Based on the field surveys and review of mapped NYSDEC wetlands within the Project Area, multiple potential mitigation sites were identified and are being considered. Because of the relatively small total acreage of impact, Noble is preparing to consolidate mitigation into a single location to maximize functions and values of the mitigation area. By centralizing the mitigation into a single location, Noble believes that the overall value of the mitigation area increases in relation to the surrounding landscape. During the course of the permit review process, Noble will continue coordinating with local landowners regarding the acquisition of suitable parcels to implement mitigation and placement of a conservation easement on the mitigation area.

The proposed mitigation project is intended to compensate for lost function and values of these wetlands while providing more of a benefit at a landscape scale by enhancing one contiguous wetland complex. The primary function of the forested component to be permanently converted is wildlife habitat. The conversion of forested wetland due to ROW clearing and maintenance primarily along the transmission line will result in a long-term shift in wildlife habitat functions. The goals and objectives for this proposed mitigation project are to enhance an existing wetland by planting trees, and to preserve said area via the establishment of conservation easements. By meeting these goals, wildlife value of the mitigation area is expected to increase.

2.2 Mitigation Area Description

Consistent with USACE and NYSDEC guidance, wetland mitigation for Project-related impacts will be accomplished by planting trees in the vicinity of an existing wetland to offset conversion of forested wetland to non-forested wetland and to compensate for the loss of wetland function. The mitigation area will be hydrologically connected to waters of the United States and to a wetland under the jurisdiction of NYSDEC. A site for the mitigation area will be selected that meets set goals and objectives to counteract wetland impacts from the Project. The location of the mitigation area will be discussed in the Final Mitigation Plan, and the exact mitigation size will be finalized through discussions with USACE and NYSDEC as Project permitting proceeds.

The Project Area is located within the Upper Genesee and Cattaraugus watersheds. The Upper Genesee watershed drains generally north along the Genesee River before emptying into Lake Ontario. The Cattaraugus watershed generally flows west to Lake Erie. The majority of the permanent impacts to wetlands for which mitigation is proposed are associated with Transmission Section 1, located within the Cattaraugus watershed; therefore the area chosen for mitigation is expected to be within this same watershed.

3

Implementation Plan

There are several components in the design and implementation of mitigation plans that are necessary procedures to follow in order to ensure success of the mitigation effort. Given the mixed track record of mitigation efforts, good planning and associated design are necessary activities in order to enhance project success. The Implementation Plan, to be included in the Final Mitigation Plan, will include specifications for planting, the sequence of operations, final quantification of materials, development of appropriate best management practices (BMPs) and additional monitoring and maintenance plans. The wetland mitigation area will be designed to provide function and value equal to, or greater than, that of the forested wetlands that are permanently converted to shrub/scrub or emergent wetlands.

The goal of the Implementation Plan is to identify potential required design factors, as well as any necessary constraints that would interfere with the successful tree planting at the mitigation area. The objectives to attain this goal include: examining current vegetation communities in the mitigation area; examining current hydrologic and soil conditions in the mitigation area; determining the most appropriate species to be planted; determining the most efficient and effective means to accomplish tree planting; and ensuring the development of a diverse native plant community that minimizes interferences by invasive species.

3.1 Site Preparation

Once a mitigation area has been chosen, additional field reconnaissance will occur to further characterize the area and determine preparation needs. Field investigations will include wetland delineations in the mitigation area in order to determine wetland/upland boundaries and to characterize vegetation communities.

3.2 Vegetative Establishment

The Implementation Plan will promote the introduction of additional native trees in the mitigation area that will enhance the natural plant communities and improve wildlife habitat. The species will be selected for enhancement of the mitigation area based on the hydrologic and soil conditions at the mitigation site, the species composition of the impacted wetlands, and species typical of undisturbed natural communities in the area.

3. Conceptual Implementation Plan

A detailed wetland planting plan will be developed to provide specifications as to the numbers of each species planted or their application rate (seeding), their location, source of planting material, and establishment methods. The planting plan will be a component of the final mitigation design package. In addition the planting plan will be made available to the USACE and NYSDEC for review.

4

Performance Standards and Monitoring

Performance standards will be developed to assess the condition and functionality of the mitigation area. The standards will assess the development and survival of the enhanced vegetation communities. Relative success or failure of the vegetation community will be based on a percent survival that will be developed in conjunction with the agencies and presented in the Detailed Mitigation Plan.

A maintenance and monitoring plan will be developed and implemented to ensure the vitality and functional integrity of the enhanced wetland. This plan will include elements of vegetative monitoring, invasive species monitoring and control, and faunal monitoring. The goal of the wetland mitigation project is to enhance and preserve wetlands in the Project Area to mitigate for the wetlands that will be impacted by the Project. A stratified sampling plan will be developed in order to estimate percent cover and relative survival of the planted trees. The duration of monitoring will be developed with the regulatory agencies, but will likely involve a five-year timeframe.

5

Schedule

Planting of the mitigation site will proceed concurrently with the construction of the Project. Preconstruction design activities as described above will be initiated once the USACE and NYSDEC have approved the site. In addition, a Final Mitigation Plan, containing the location of the proposed mitigation area and the Implementation Plan will be submitted to NYSDEC and the USACE prior to permit issuance.

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References

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