

# **DRAFT Mad River Wind Project Avian and Bat Survey Work Plan: 2016- 2017**

Jefferson and Oswego Counties,  
New York



Prepared for:

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## 1.0 Introduction

Avangrid Renewables, LLC (AR) is considering the construction of the Mad River Wind Project (Project) located in Jefferson and Oswego counties, New York (Figure 1). The Project is in preliminary stages of design.

This work plan outlines a scope of work for pre-construction avian and bat surveys at the Project. AR initiated some sampling effort during fall 2016 and those efforts are described in this plan. The overall survey effort is based on the New York State Department of Environmental Conservation (DEC) *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* (DEC Guidelines), dated April 2016, the United States Fish and Wildlife Service (USFWS) *Land-Based Wind Energy Guidelines* (USFWS Guidelines), dated March 23, 2012, and phone conversations with DEC regarding fall migration avian use surveys on August 2, 2016, and March 3, 2017.

The Project area is approximately 18,600 acres in size and consists largely of managed, mature hardwood forest. The predominant management strategy appears to be selective harvesting and, consequently, no clearcuts or areas of early successional forest occur. There are numerous open wetlands associated with streams across the site. These include active and old beaver flowages, wet meadows, and scrub-shrub swamps. There is an existing road system and ATV trails throughout the Project area used for forest management activities and for landowners to access a number of cabins, trailers, and camp sites distributed across the Project area.

## 2.0 Site Characterization Report

A Site Characterization Report (SCR) will be prepared to describe the Project area and the avian and bat, and other natural resources known or potentially occurring within it. This report is intended to meet some of the initial recommendations of both the NYSDEC Guidelines and the USFWS Guidelines; notably the Site and Project Description component of the NYSDEC Guidelines and Tiers 1 and 2 of the USFWS Guidelines.

The National Land Cover Database<sup>1</sup> will be used to identify the type and extent of habitats occurring in the Project area. Publicly available natural resource databases such as the NYSDEC Significant Natural Community Mapping, USFWS Information for Planning and Conservation (IPaC), the USGS Breeding Bird Survey (BBS), the New York Breeding Bird Atlas (BBA), National Audubon Society Important Bird Area (IBA), and others will be accessed to identify avian and bat resources that are known to or could occur in the Project area. Finally, the regional NYSDEC office will be contacted and a data request will be submitted to the New York Natural Heritage

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<sup>1</sup> Homer, C.G., J.A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N.D. Herold, J.D. Wickham, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the conterminous United States - representing a decade of land cover change information. *Photogrammetric Engineering and Remote Sensing*, v. 81, no. 5, p. 345-354.

Program to request information on State listed species or other species of conservation concern that could occur in or near the Project.

The SCR will present summary tables and figures of the information reviewed. A narrative summary of the information reviewed will also be provided.

### **3.0 Fall 2016 and Spring 2017 Raptor Migration Surveys**

A fall 2016 raptor migration survey was conducted from August 25 to December 16, 2016, at two southern locations in the Project area. Initially, four survey days were conducted from a borrow pit located along Little John Drive. Although views from this location were acceptable, the survey location moved to the southernmost meteorological (met) tower clearing in the Project area, approximately 2 kilometers (km) (1.2 miles) south-southeast of the borrow pit, where an approximately 7 meters (m) (23 ft) observation tower was installed (Figure 1). All subsequent survey days (13 days) were conducted at this location.

Surveys took place from 8:00 am to approximately two hours before sunset and generally targeted days with suitable migration weather (northerly winds and warm temperatures) and days with good visibility. Data was collected on standard raptor datasheets and flight paths drawn on Project area maps. Data collected included species identification, number of individuals, sex and age class (if possible), flight pattern and location, flight behavior, flight height, time of observation, and weather conditions. The surveys targeted raptor species; however, other bird species, including flocks of birds and sensitive species, were recorded as incidental observations to the survey.

The spring 2017 raptor migration survey will follow the same field methods as those used during fall. Surveys will be targeted to occur at a rate of one every seven days, between March 1 and May 31, from 8:00 am to two hours before sunset, and on days with generally suitable raptor migration weather and good visibility. The observation tower at the southernmost met tower will be used for the survey when site conditions allow access to it (Figure 2). If the tower is not safely accessible, an alternative survey location—where Little John Drive crosses the Mad River— will be used.

The results of the spring raptor migration survey will be provided in a draft report that incorporates the results of the 2017 spring migrating bird survey and the 2017 breeding bird survey. The raptor survey results will follow reporting recommendations identified in the NYSDEC Guidelines.

### **4.0 Fall 2016 and Spring 2017 Migrating Bird Transect Surveys**

A fall 2016 migrating bird transect survey was completed to document the occurrence of migrating birds through the Project area, including species that might not normally be documented during more traditional surveys, such as raptor migration or summer breeding bird surveys. This survey included five transects located across the Project area (Figure 1). Transects

were 1 km (0.6 miles) long and their locations were selected to sample multiple representative habitats, including uplands and wetlands. This transect configuration differed from that recommended in the NYSDEC Guidelines but was chosen based on phone conversations with NYSDEC to increase the potential to document a wider variety of migrating birds stopping over in the Project area during fall migration.

The fall migrating bird transects were sampled once each week from August 24 to October 25, 2016. Counts occurred from early morning into mid-afternoon (~1:00 to 3:00 pm). Observers varied the time of the day for surveying each transect from week to week. Birds detected by sight and sound were recorded on standard datasheets, including soaring raptors, waterfowl, and other flyovers. All species and number of individuals were recorded, along with behavior(s), distance along transect, time to complete survey, any additional notes, and weather at time of survey visit.

The spring migrating bird transect survey will follow the same field methods as used during the fall survey. The NYSDEC guidelines recommend these surveys be completed between March 15 and May 15. Site conditions within the Project area, however, will limit the accessibility of much of the Project area in late March due to deteriorating snow and ice conditions that will restrict vehicle use during the mud season (including trucks, snow machines, and ATVs). As such, this survey effort will begin as soon as site conditions allow and landowner permission to use the roads is received. Once initiated, the same five transects (Figure 2) will be walked once per week until May 31 and the same type of bird observation data will be recorded.

The results of the spring migrating bird survey will be provided in a draft report that incorporates the results of the 2017 spring raptor survey and the 2017 breeding bird survey. The survey results will follow reporting recommendations identified in the NYSDEC Guidelines.

### 5.0 2017 Breeding Bird Survey

A 2017 breeding bird survey will be completed in the Project area. The Project is currently in early stages of development and a layout for the proposed turbines, roads, and other infrastructure is not available. Consequently, the transect-based before-after-control-impact (BACI) survey design recommended in the NYSDEC Guidelines may not yield the turbine-specific avian use data the recommended BACI survey would target. Consequently, a point count-based breeding bird survey is proposed. This point count effort will characterize the predominant breeding birds, by habitat, in the Project area and will target upland and wetland habitats.

Forty point count locations will be established in the Project area (Figure 2). Points will be distributed in groups across the Project area to facilitate efficient sampling. Most point count locations will be placed in upland hardwood forest since that is the predominant habitat type within the Project area and at a variety of distances from the existing road and trail system. Due to the abundance of beaver flowages and other open wetlands, a subset of points will be placed on the edges of these habitats to characterize wetland nesting species, even though turbines are unlikely to be placed within these habitats. Additionally, a point count will be

## **DRAFT MAD RIVER WIND PROJECT AVIAN AND BAT SURVEY WORK PLAN: 2016-2017**

placed at each of the three met towers located in the Project area, as these openings essentially represent the only upland, early successional habitat in the Project area and may be representative of habitats found at turbine locations following construction of the Project.

Point count surveys will occur weekly from May 15 until June 30 (six weeks). Twenty points will be surveyed each week such that each point will be surveyed three times over the six-week survey period. Point counts will occur between sunrise and 10:00 am and on mornings with suitable weather conditions (light winds and no to very limited precipitation). During each point count, a qualified biologist familiar with New York state birds by sight and sound will record all birds seen or heard during a 10-minute survey period (following a 3-minute quiet period), including any species in flight passing over the survey point. Information to be collected will include species, sex, age (when possible), time when heard (minutes 0–3, 3–5, and 5–10), behavior and distance from the point center (< 50 m, 50–100 m, > 100 m). Weather conditions will be recorded, as will any notes on potential disturbances in the area that could affect bird activity or the observations made during the point count (such as ATV traffic or a nearby watercourse).

The results of the breeding bird survey will be provided in a draft report that incorporates the results of spring 2017 raptor and song bird migration survey efforts. The survey results will follow reporting recommendations identified in the NYSDEC Guidelines.

### **6.0 Spring, Summer, Fall 2017 Bat Activity Monitoring**

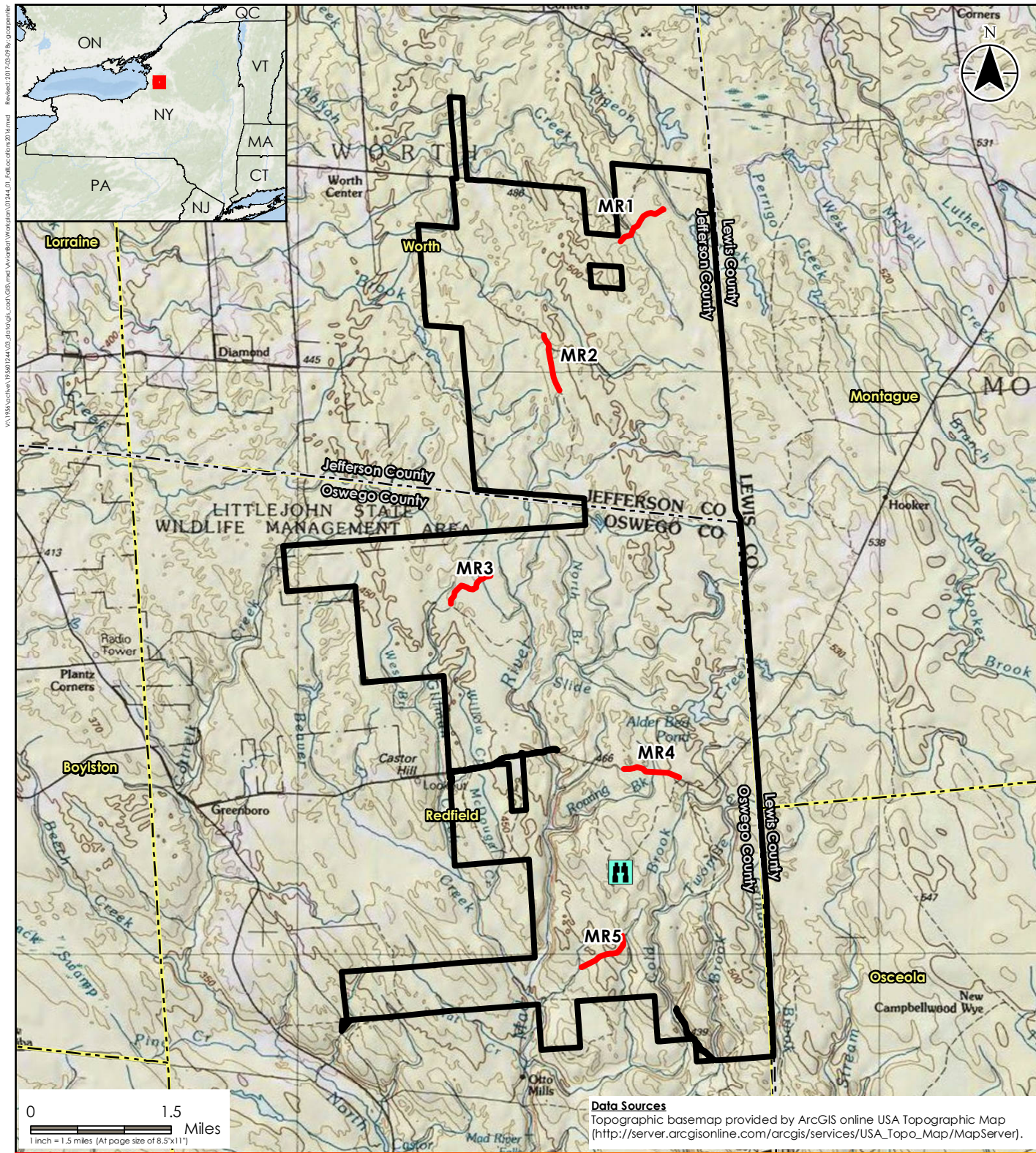
Bat activity will be monitored in the spring, summer and fall of 2017. The intent of this effort is to provide an index of activity of all bats across the annual time period that bats are active and to relate that activity to weather conditions. This survey is not intended to provide presence or absence information for any listed species.

A single full spectrum acoustic bat detector (Wildlife Acoustics™ SM4BAT) will be deployed at each of the three met towers from approximately April 15 to October 31, 2017 (Figure 2). The microphone for each bat detector will be raised to approximately 45 m above the ground, which is within the rotor swept zone of the proposed wind turbines. The detector will be programed to operate from 30 minutes before sunset to 30 minutes after sunrise each night.

Recorded acoustic files will be screened to remove noise and static files commonly included with long-term, passive acoustic monitoring. Once noise files are removed, the remaining call files will be analyzed with software programs and then visually inspected and categorized to guild and to species, when possible.

A draft report will be prepared once detectors have been retrieved from the Project area. The report will provide a summary of the recorded calls, by species and species guild. This survey summary will also include an analysis of wind speed, wind direction, and temperature data from the MET towers to assess if these weather variables are correlated with bat activity levels.





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Prepared by GAC on 2017-03-09  
Reviewed by BR on 2017-03-09

01244\_01\_FallLocations2016.mxd

#### Legend

- Raptor Survey Location
- Fall Bird Survey Transect
- Project Boundary (8/18/16)
- Town Boundary
- County Boundary

#### Client/Project

Mad River Wind  
Redfield and Worth, New York

#### Figure No.

1

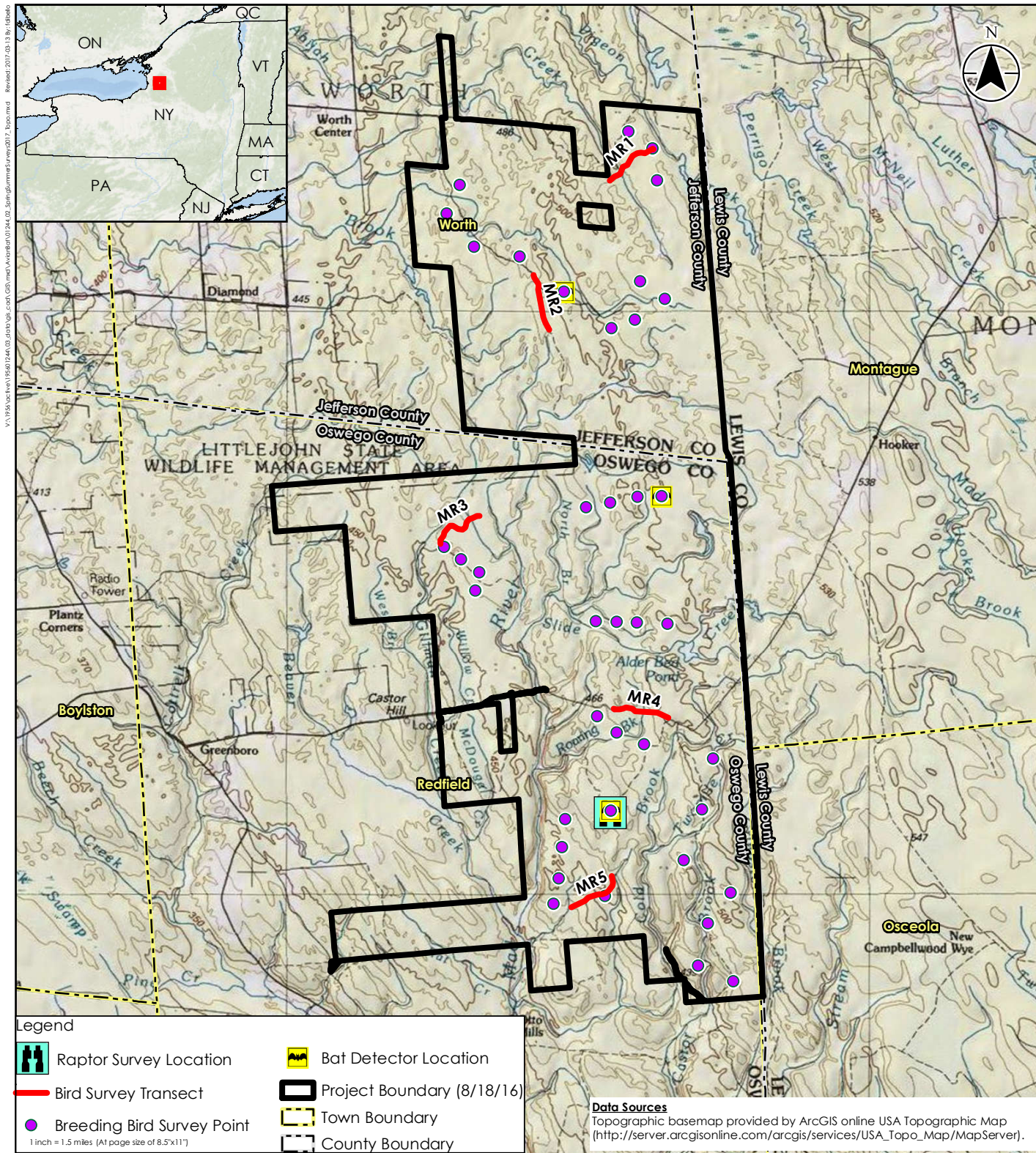
#### Title

Fall 2016 Survey Locations

3/9/2017

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 Independent Review by BR on 2017-03-02  
 01244\_02\_SpringSummerSurveys2017\_Topo.mxd

0 1.5 Miles

**Client/Project**  
 Mad River Wind  
 Redfield and Worth, New York

**Figure No.**  
 2

**Title**  
 2017 Spring and Summer  
 Survey Locations

3/13/2017

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