ATTACHMENT 1
AGENCY CORRESPONDENCE

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925

Denise M. Sheehan
Commissioner

January 30, 2007

Richard Delahunty
Tetra Tech, Inc
1000 the American Road
Morris Plains, NJ 07950

Dear Mr. Delahunty:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Marble River Wind Farm, area as indicated on the map you provided, located in the Towns of Clinton and Ellenburg, Clinton County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.

PLEASE NOTE: For Windpower Projects, we report all records found within the project boundary, and any avian records that may be located within a 10-mile buffer of the project boundary. We also report Indiana bat hibernaculum that may be located within a 40-mile buffer of the project boundary.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Tara Seoane

Tara Seoane, Information Services
NY Natural Heritage Program

Enc.
cc: Reg. 5, Wildlife Mgr.
Rudyard Edick, Environmental Permits, Albany
Mark Wothal, Bureau of Habitats, Albany

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
12233-4757
(518) 402-8935

~This report contains **SENSITIVE** information that should not be released to the public without permission from the NY Natural Heritage Program.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

BIRDS

Catharus bicknelli

Bicknell's Thrush

NY Legal Status: Special Concern
Federal Listing:
Last Report: 2000-06-23
County: Clinton
Town: Dannemora
Location: Lyon Mountain
General Quality and Habitat: The birds were found in an area covered with stunted fir and some stunted white birch.

NYS Rank: S2S3B - Imperiled
Global Rank: G4 - Apparently secure
EO Rank: Extant

Office Use 11227
ESU

Gavia immer

Common Loon

NY Legal Status: Special Concern
Federal Listing:
Last Report: 2004
County: Clinton
Town: Dannemora
Location: Chazy Lake
General Quality and Habitat: The rank is based on a comparison to other sites within New York State. The loons have been found in a lake.

NYS Rank: S3 - Vulnerable
Global Rank: G5 - Demonstrably secure
EO Rank: Fair or Poor

Office Use 11730
ESU

Gavia immer

Common Loon

NY Legal Status: Special Concern
Federal Listing:
Last Report: 2004
County: Clinton
Town: Dannemora, Ellenburg
Location: Upper Chateaugay Lake
General Quality and Habitat: The rank is based on a comparison to other sites within New York State. The loons were observed on a lake.

NYS Rank: S3 - Vulnerable
Global Rank: G5 - Demonstrably secure
EO Rank: Fair or Poor

Office Use 7477
ESU

3 Records Processed

These bird occurrences are within 10 miles of the project site.

Natural Heritage Report on Rare Species

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor, Albany, NY
12233-4757
(518) 402-8935

~This report contains **SENSITIVE** information that should not be released to the public without permission from the NY Natural Heritage Program.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~We do not provide maps for species most vulnerable to disturbance.

Natural Heritage Report on Rare Species and Ecological Communities

MAMMALS

Myotis leibii
Eastern Small-footed Myotis

Office Use

NY Legal Status: Special Concern **NYS Rank:** S2 - Imperiled 9518

Federal Listing: **Global Rank:** G3 - Vulnerable SC
County: Clinton
Town: Ausable
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

Myotis leibii
Eastern Small-footed Myotis

Office Use

NY Legal Status: Special Concern **NYS Rank:** S2 - Imperiled 6425

Federal Listing: **Global Rank:** G3 - Vulnerable SC
County: Clinton
Town: Ausable
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

OTHER

Bat Colony

Office Use

NY Legal Status: Unlisted **NYS Rank:** SNR - Rank not assigned 8748

Federal Listing: **Global Rank:** GNR - Not ranked S
County: Franklin
Town: Bellmont
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

Bat Colony

Office Use

NY Legal Status: Unlisted **NYS Rank:** SNR - Rank not assigned 9246

Federal Listing: **Global Rank:** GNR - Not ranked SC
County: Clinton
Town: Ausable
Location: Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.

These bat occurrences are within 40 miles of the project site.

					Office Use
Bat Colony	**NY Legal Status:**	Unlisted	**NYS Rank:**	SNR - Rank not assigned	5816
	Federal Listing:		**Global Rank:**	GNR - Not ranked	SC
	County:	Clinton			
	Town:	Ausable			
	Location:	Documented beyond the boundaries of the project site. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located, or the NYS DEC Endangered Species Unit at 518-402-8859.			

5 Records Processed

These bat occurrences are within 40 miles of the project site.

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

November 3, 2005

Brian Schwabenbauer
Environmental Design & Research
238 West Division St
Syracuse, NY 13204

Dear Mr. Schwabenbauer:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to an Environmental Assessment for the proposed Marble River Wind Power Project #05-024, area as indicated on the map you provided, located in the Towns of Ellenburg and Clinton, Clinton County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.
PLEASE NOTE: For Windpower Projects, we extended our record search for any avian records within a 10-mile buffer. We also extended our search for Indiana bat hibernaculum within a 40-mile buffer.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Betty Ketcham

Betty A. Ketcham, Information Services
New York Natural Heritage Program

Enc.
cc: Reg. 5, Wildlife Mgr.
Mark Wothal, Bureau of Habitat, Albany
Jack Nasca, Environmental Permits, 4th floor, Albany

Faxed 10/20/05

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

October 20, 2005

Mr. Brian Schwabenbauer
Environmental Analyst
EDR, P.C.
238 West Division Street
Syracuse, NY 13204

Dear Mr. Schwabenbauer:

This responds to your letter of September 19, 2005, requesting information on the presence of Federally-listed or proposed endangered or threatened species in the vicinity of an area under study for potential development of a wind energy facility in the Towns of Ellenburg and Clinton, Clinton County, New York. We will address listed species, but will also provide information regarding the potential for other wildlife-related concerns first.

It appears that siting a wind energy facility in that area could affect species under U.S. Fish and Wildlife Service (Service) jurisdiction; however, further information is necessary to adequately make any determinations. This additional information includes a more detailed project description (*e.g.*, estimate of the operational lifespan of the project, the length of roads to be constructed, whether transmissions lines will be buried or overhead), as well as information on habitat and bird and bat use within the project area. We are providing the following comments pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712), the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). In addition to these comments, we may provide additional future comments under other legislation such as the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

The Service supports use of renewable energy resources when developed in an environmentally responsible manner. Renewable energy sources, such as solar and wind, can reduce the environmental impacts of extraction and emissions associated with burning fossil fuels. To ensure that environmental benefits of renewable energy development outweigh potential impacts, we will work with the project sponsor in identifying ways that protect wildlife.

One purpose of this letter is to advise the project sponsor of prohibitions and permitting aspects of the applicable Federal wildlife laws. We do this so the project sponsor can make an informed decision regarding site selection, project design, the risk of violating these acts, and whether applying for a permit to cover the anticipated take of the species is appropriate, where such a mechanism is available.

Migratory Species

Background

Migratory birds, such as waterfowl, passerines, and raptors are Federal trust resources and are protected by provisions of the MBTA; the Service is the primary Federal agency responsible for administering and enforcing the MBTA. This act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except when specifically authorized by the Service. The word "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." The unauthorized taking of even one bird is legally considered a "take" under the MBTA and is a violation of the law. Neither the MBTA nor its implementing regulations, 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds that may be killed or injured by wind projects. However, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. Depending on the circumstances, the Service's Office of Law Enforcement may exercise enforcement discretion. The Service focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, especially when conservation measures have been developed but are not properly implemented.

Operational wind turbines can adversely affect wildlife in a variety of ways. Foremost, the potential exists for bird and bat collision within the rotor-swept area of each turbine. It has been documented that wind turbines cause bat and bird mortality in a variety of species (Erickson et al. 2001). Research to date indicates that raptors are prone to wind turbine collisions. Songbirds, particularly those individuals migrating at night under poor visibility conditions, are even more susceptible. Recently, it has been reported that large numbers of bats have also been killed by these structures located on ridges. Habitat loss, fragmentation, and degradation are also potential impacts from wind energy development projects. Turbines can affect breeding and feeding behavior in some species, as well.

Recognizing potential impacts to wildlife due to development of wind power projects, the Service developed *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (Guidelines) (Service 2003). A copy of this document may be obtained from our office or found on the Internet at www.fws.gov/r9dhcbfa/wind.pdf. These Guidelines include recommendations for: 1) proper evaluation of wind resource areas; 2) proper siting and design of turbines within development areas; and 3) pre- and post-construction research and monitoring to identify and/or assess impacts to wildlife. We suggest the project sponsor review this information during development of the project design.

The potential for bat and bird mortality from this type of project appears to be dependent on factors such as wildlife abundance, presence of a migration corridor, geographic location, and particular landscape features. As specified in the Guidelines, the project site should be evaluated for habitat features such as the presence of breeding, feeding, and roosting areas. Unique habitats, such as wetlands, should also be considered.

Recommendations

The Service recommends that a bat and bird risk assessment should be conducted by the project sponsor. This assessment should include a review of all available data and literature relevant to bat and bird use of this site. In addition, the assessment should identify potential impacts as a

result of collisions with turbines including the potential effects on, but not limited to, raptors, passerines, and bats, as well as cumulative effects of collision mortality from the proposed turbines. The physical disturbance, direct loss, and fragmentation of grassland and forest habitat should also be included in the evaluation. This information should be incorporated into the project's environmental documents for review.

As part of the risk assessment process, we recommend that pre-construction studies of bird use of the proposed project site be completed. These studies should be of sufficient rigor to determine the temporal and spatial distribution of resident and migrating bat and bird species in and adjacent to the project area during various weather conditions (*e.g.*, fog, rain, low cloud ceilings, clear skies, etc.). One source of information on monitoring the project site for wildlife species can be obtained from "Studying Wind Energy/Bird Interactions: A Guidance Document. Metrics and Methods for Determining or Monitoring Potential Impacts on Birds at Existing and Proposed Wind Energy Sites" (National Wind Coordinating Committee 1999).

In order to determine the potential collision-hazard for a particular site, and to account for annual variability, the spatial and temporal uses of the project airspace by birds and bats needs to be defined during a multi-year period. This can best be accomplished by using remote sensing technology (radar, acoustic, and infrared) to collect data in various spatial and temporal scales (day and night, season to season, and year to year). Traditional sampling protocols (*e.g.*, visual observation and/or mist netting) may be appropriate to supplement the remote sensing work and would likely be necessary to ground truth the data for individual species. Survey techniques are currently evolving and the project sponsor should work closely with this office and the New York State Department of Environmental Conservation (NYSDEC) to develop a draft study design prior to conducting any studies. Survey results should also be submitted to us for review and comment, along with proposed project-specific avoidance and minimization methods to reduce the risk of bat and bird mortality.

Finally, the Service recommends that all wind power projects that proceed to construction be monitored for impacts to wildlife following construction and during turbine operation. Therefore, we recommend mortality monitoring be completed on a systematic basis around the turbines. Post-construction bat and bird mortality monitoring should occur for a minimum of three years. Methods should be coordinated with both the Service and the NYSDEC. Information gained from post-construction monitoring will continue to aid the Service and project sponsors about the potential impacts, or lack thereof, to wildlife (including listed species - see below) in the project area.

Federally-listed Threatened or Endangered Species

Except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the ESA. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally-listed and proposed endangered and threatened species in New York* is available for your information. If the proposed project is not completed within one year from the date of this determination, we recommend that you contact us to ensure that listed species presence/absence information for the proposed project is current.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the ESA. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate State regional office(s),* and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233-4757
(518) 402-8935

Work in certain waters of the United States, including wetlands, and streams may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

If you require additional information or assistance please contact Timothy Sullivan at (607) 753-9334. Future correspondence with us on this project should reference project file 52662.

Sincerely,

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: http://nyfo.fws.gov/es/esdesc.htm.

References:

Erickson, W.P., G.D. Johnson, M.D. Stricland, D.P. Young, Jr., K.J. Sernka, and R.E. Good. 2001. Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee publication.

National Wind Coordinating Committee. 1999. Studying Wind Energy/Bird Interactions: A Guidance Document. Metrics and Methods for Determining or Monitoring Potential Impacts on Birds at Existing and Proposed Wind Energy Sites.

U.S. Fish and Wildlife Service. 2003. Interim guidelines to avoid and minimize wildlife impacts from wind turbines. Web site address: http://www.fws.gov/r9dhcbfa/WindTurbineGuidelines.pdf

cc: NYSDEC, Region 5, Ray Brook, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage)
NYSDEC, Albany, NY (Endangered Species Unit, Attn: P. Nye/A. Hicks)
EPA, Div. of Environmental Planning & Protection, New York, NY

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

April 15, 2004

Ms. Anntonette Z. Alberti
Project Manager
Tetra Tech FW, Inc.
1 Kelmik Drive
Saratoga Springs, NY 12866

Dear Ms. Alberti:

This responds to your transmittal of February 25, 2004, requesting information on the presence of endangered or threatened species in the vicinity of a proposed energy development project, Site 1, in the Towns of Chateaugay, Clinton, Ellenburg, and Mooers, Clinton and Franklin Counties, New York.

It appears that the proposed project may affect species under U.S. Fish and Wildlife Service (Service) jurisdiction, however, further information is necessary to adequately make any determinations. This additional information includes a more detailed project description (*e.g.*, estimate of the operational lifespan of the project, the length of roads to be constructed, whether transmissions lines will be buried or overhead), as well as information on bird and bat use within the project area. We are providing the following comments pursuant to the Migratory Bird Treaty Act (16 U.S.C. 703-712) (MBTA), the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). In addition to these comments, we may provide additional future comments under other legislation such as the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

One purpose of this letter is to advise the project sponsor of the prohibitions and permitting aspects of the applicable Federal wildlife laws. We do this so your client can make an informed decision regarding site selection, project design, the risk of violating these acts, and whether applying for a permit to cover the anticipated take of the species is appropriate, where such a mechanism is available.

Migratory Birds

Migratory birds, such as waterfowl, passerines, and raptors are Federal trust resources and are protected by provisions of the MBTA and the Service is the primary Federal agency responsible for administering and enforcing the MBTA. This act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except when specifically authorized by the Service. The word "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture,

or collect." The unauthorized taking of even one bird is legally considered a "take" under the MBTA and is a violation of the law. Neither the MBTA nor its implementing regulations, 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds that may be killed or injured by wind projects. However, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. Depending on the circumstances, the Service's Office of Law Enforcement may exercise enforcement discretion. The Service focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, especially when conservation measures have been developed but are not properly implemented.

Operational wind turbines can adversely affect wildlife in a variety of ways. Foremost, the potential exists for bird and bat collision within the rotor-swept area of each turbine. It has been documented that wind turbines cause bat and bird mortality in a variety of species (Erickson et al. 2001). Research to date indicates that raptors are prone to wind turbine collisions. Songbirds, particularly those individuals migrating at night under poor visibility conditions, are even more susceptible. Recently, it has been reported that large numbers of bats have also been killed by these structures located on ridges.

Recognizing the potential impacts to wildlife due to development of wind power projects, the Service developed *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (Guidelines). A copy of this document may be obtained from our office or found on the Internet at www.fws.gov/r9dhcbfa/windenergy.htm. These Guidelines include recommendations for: 1) proper evaluation of wind resource areas; 2) proper siting and design of turbines within development areas; and 3) pre- and post-construction research and monitoring to identify and/or assess impacts to wildlife. We suggest the project sponsor review this information during the development of the project design.

The potential for bat and bird mortality from this type of project appears to be dependent on factors such as wildlife abundance, presence of a migration corridor, geographic location, and particular landscape features. As specified in the Guidelines, the project site should be evaluated for habitat features such as the presence of breeding, feeding, and roosting areas. Unique habitats, such as wetlands, must also be considered.

A bat and bird risk assessment should be conducted by the project sponsor. This assessment should include a review of all available data and literature relevant to bat and bird use of this site. In addition, the assessment should identify potential impacts as a result of collisions with turbines including the potential effects on, but not limited to, raptors, passerines, and bats, as well as cumulative effects of collision mortality from the proposed turbines. The physical disturbance, direct loss, and fragmentation of grassland and forest habitat should also be included in the evaluation. This information should be incorporated into the project's environmental documents for review.

If the results of the risk assessment indicate there may be the potential for adverse effects, we may recommend pre-construction studies of bird use of the proposed project site. Pre-construction studies of bats for this location are recommended (see endangered species comments). These studies should be of sufficient rigor to determine the temporal and spatial distribution of resident and migrating bat and bird species in and adjacent to the project area during various weather conditions (*e.g.*, fog, rain, low cloud ceilings, clear skies, etc.). Information on monitoring the project site for bird species can be obtained from "Studying Wind Energy/Bird Interactions: A Guidance Document. Metrics and Methods for Determining or

Monitoring Potential Impacts on Birds at Existing and Proposed Wind Energy Sites" (National Wind Coordinating Committee 1999).

In order to determine the potential collision-hazard for a particular site, the spatial and temporal uses of the airspace by birds and bats needs to be defined during a multi-year period. This can best be accomplished by using remote sensing technology (radar, acoustic, and infrared) to collect data in various spatial and temporal scales (day and night, season to season, and year to year). Traditional sampling protocols (*e.g.*, visual observation and/or mist netting) may be appropriate to supplement the remote sensing work and would likely be necessary to ground truth the data for individual species. Survey techniques are currently evolving and the applicant should work closely with this office and the New York State Department of Environmental Conservation (State) to develop a draft study design prior to conducting any studies. Survey results should also be submitted to us for review and comment, along with proposed project-specific avoidance and minimization methods to reduce the risk of bat and bird mortality.

Finally, the Service recommends that all wind power projects that proceed to construction be monitored for impacts to wildlife following construction and during turbine operation. Therefore, we recommend monitoring for the newly proposed turbines. Post-construction bat and bird mortality monitoring should occur for a minimum of three years. Methods should be coordinated with both the Service and the State. Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about the potential impacts, or lack thereof, to wildlife (including listed species - see below) in the project area.

Endangered Species

Section 9 of the ESA prohibits the take of any Federally-listed animal species by any person subject to the jurisdiction of the United States. The term "person" is defined as "...an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States." Section 11 of the Act provides for both civil and criminal penalties for those convicted of Section 9 violations.

As defined in the ESA, take means "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct." "Harm" in the definition of take means an act which kills or injures wildlife. Such an act may include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR Part 17.3). "Harass" means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

Take, incidental to an otherwise lawful activity, may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species will be adversely affected, then initiation of formal consultation between that agency and the Service pursuant to Section 7 of the ESA is required. Such consultation would result in a biological opinion addressing the anticipated effects of the project to the listed species, and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and Federally-listed species may be taken as a result of the project, then an incidental

take permit pursuant to Section 10(a)(1)(B) of the ESA should be obtained. The Service may issue such a permit upon completion of a satisfactory habitat conservation plan for the listed species that would be taken by the project. With respect to this project, it is not clear whether any Federal agency is involved in project permitting, funding, or authorization.

The Indiana bat (*Myotis sodalis*) is a Federally-listed endangered species that may be affected by the proposed project. The Indiana bat is known to winter in six counties in New York State. While we have learned a great deal about the wintering population with standardized counts organized by the State, we are continuing to study Indiana bat migratory patterns and summer habitat use within New York. Previous research has documented Indiana bat movements of up to 330 miles between hibernacula and summer habitats (Kurta and Murray 2002). However, that study (as well as the majority of research on Indiana bats) took place in the Midwest. In the Northeast, multiple agencies are investigating Indiana bat movements and the most recent studies of bats from a hibernaculum in Essex County, New York, provide additional information.

In the Essex County study, twenty-two female and two male Indiana bats were captured as they exited their wintering site and marked with radio transmitters. Nineteen females were subsequently tracked and observed at spring roosts and maternity colony sites 8-26 miles from the hibernaculum (in the Lake Champlain Valley) (Service unpub. data). Prior to extending the findings of this study to all of New York, it is important to consider factors such as the sample size of this study, as well as specific information for each project site (*e.g.*, topography, presence of suitable habitat, source population size). In addition, it is important to note that the study results do not include information on distances Indiana bats travel from their roosts and maternity colonies to foraging areas. We will continue to learn more about migration and summer habitat use in the next few years with additional radio telemetry studies.

For this project, there are three known hibernacula for the Indiana bat within 75 miles from the proposed site. Bats from these and/or other potential nearby hibernacula could be affected by the proposed wind turbine project. Specifically, bats migrating through the area to and from their summer roosting habitats or maternity colonies may fly through the turbine field. Bat mortalities have previously been observed at various turbine sites (*e.g.*, Buffalo Ridge, MN; Foote Creek Rim, WY; Backbone Mountain, WV). Based on current information, it appears that most fatalities have occurred during late summer and early fall migration (Johnson *in press*). This further emphasizes our concern about the potential for adverse affects to migrating Indiana bats. In addition to our concerns about migrants, there may be resident bats using roost trees in the vicinity of the project and/or using the site for foraging habitat. While the majority of fatalities documented to date has involved migratory tree bats, impacts to cave bats have also been observed and there is still much to learn about potential impacts of wind projects on all bat species.

To determine the likelihood of adverse effects on Indiana bats, we recommend that the applicant conduct pre-construction monitoring of bats at this location using radar, acoustical studies, and/or other appropriate sampling techniques. As stated above, the applicant should work closely with this office and the State to develop a draft study design prior to conducting any studies. These surveys should be conducted during the active Indiana bat flight period (April through October), with the number of survey years to be determined through the study design process. All survey results should be provided to this office as they will be used to evaluate potential impacts to the Indiana bat, and to determine the need for further coordination or consultation pursuant to the ESA.

Except for the Indiana bat and occasional transient individuals, no other Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the ESA. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally listed and proposed endangered and threatened species in New York* is available for your information.

The small-footed bat (*Myotis leibii*) is found at the same hibernacula as the Indiana bat, as well as additional locations in the project vicinity. The small-footed bat is considered a species of concern (formerly known as Category 2 Candidate species) by the Service and its status is being monitored throughout much of its range. Species of concern do not receive substantive or procedural protection under the ESA; however, the Service does encourage Federal agencies and other appropriate parties to consider these species in the project planning process.

The Indiana bat is listed as endangered and the small-footed bat is considered a species of special concern by the State of New York. The information requested above should be coordinated with both this office and with the State. The State contact for the Indiana bat and small-footed bat is Mr. Peter Nye, Endangered Species Unit, 625 Broadway, Albany, NY 12233 (telephone: [518] 402-8859).

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate State regional office(s),* and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233-4757
(518) 402-8935

Since wetlands may be present, you are advised that National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853-5601
(607) 255-6520
web: http://iris.css.cornell.edu
email: cornell-iris@cornell.edu

Work in certain waters of the United States, including wetlands, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or

implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

If you require additional information or assistance please contact Michael Stoll or Timothy Sullivan at (607) 753-9334.

Sincerely,

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: http://nyfo.fws.gov/es/esdesc.htm.

References:

Erickson, W.P., G.D. Johnson, M.D. Stricland, D.P. Young, Jr., K.J. Sernka, and R.E. Good. 2001. Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee publication.

Johnson, G.D. In press. What is known and not known about bat collision mortality at windplants? *In:* R.L. Carlton (*ed.*). Avian interactions with wind power structures. Proceedings of a workshop held in Jackson Hole, Wyoming, USA, October 16-17, 2002. Electric Power Research Institute, Concord, CA.

Kurta, A., and S.W. Murrary. 2002. Philopatry and migration of banded Indiana bats (Myotis sodalis) and effects of radio transmitters. Journal of Mammalogy 83(2):585-589.

National Wind Coordinating Committee. 1999. Studying Wind Energy/Bird Interactions: A Guidance Document. Metrics and Methods for Determining or Monitoring Potential Impacts on Birds at Existing and Proposed Wind Energy Sites.

U.S. Fish and Wildlife Service. 2003. Interim guidelines to avoid and minimize wildlife impacts from wind turbines. Web site address: http://www.fws.gov/r9dhcbfa/WindTurbineGuidelines.pdf

cc: NYSDEC, Ray Brook, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage)
NYSDEC, Albany, NY (Endangered Species Unit, Attn: P. Nye/A. Hicks)
EPA, Div. of Environmental Planning & Protection, New York, NY
COE, New York, NY

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925
Website: www.dec.state.ny.

Erin M. Crotty
Commissioner

March 9, 2004

Anntonette Z Alberti
Tetra Tech FW, Inc
1 Kelmik Drive
Saratoga Springs, NY 12866

Dear Ms. Alberti: (Site 1)

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed potential Energy Development Project - Wind Turbine Project - area as indicated on the map you provided, located in Northwest Clinton and Northeast Franklin Counties.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in this project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,
Betty Ketcham
Betty A Ketcham, Information Services
NY Natural Heritage Program

Encs.
cc: Reg. 5, Wildlife Mgr.
Al Hicks, Endangered Species Unit, Albany
Adirondack Parks Agency, Ray Brook

Clinton Site

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 4 March 2004 by NY Natural Heritage Program, NYS DEC, Albany, New York

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
We do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

* County
** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Detailed Location	General Habitat and Quality	Office Use
* FRANKLIN					
** BELLMONT					
BAT HIBERNACULUM Other	UNPROTECTED S?	E 1985-04-28	CAVE		4407368 S

1 Records Processed

Clinton Site

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 4 March 2004 by NY Natural Heritage Program, NYS DEC, Albany, New York

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
We do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display

* County
** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Detailed Location	General Habitat and Quality	Office Use
* CLINTON					
** DANNEMORA					
Gavia immer COMMON LOON Bird	PROTECTED - SPECIAL CONCERN G5 S3S4		UPPER CHATEAUGAY LAKE Upper chateaugay lake, west side of Clinton County. Nest found at the south end of the lake.	For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager or NYS DEC Endangered Species Unit at 518-402-8859	4407363 S ESU
* FRANKLIN					
** BELLMONT					
Ixobrychus exilis LEAST BITTERN Bird	THREATENED G5 S3B,S1N		INGRAHAM STREAM WETLAND The birds are located in a wetland between Owl's Head and Mountain View. Access is from the east side of Route 27 (Pond Road).	For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager or NYS DEC Endangered Species Unit at 518-402-8859	4407462 ESU
Gavia immer COMMON LOON Bird	PROTECTED - SPECIAL CONCERN G5 S3S4		RAGGED LAKE Ragged lake, from owls head, east on Indian Lake road to ragged Lake Road to ragged lake.	For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager or NYS DEC Endangered Species Unit at 518-402-8859.	4407461 S ESU

3 Records Processed