TOWN OF PHILIPSTOWN CONSERVATION BOARD
TOWN HALL 238 MAIN STREET, COLD SPRING, NY
TUESDAY APRIL 9, 2013 at 7:30 PM

MEETING AGENDA

DAVID & SUZANNE WEINPHAL TM# 27.6-1-1 WL-13-231
88 FOUNDRY POND RD
(INSTALLATION OF POOL AND RELATED ACTIVITES)

APPROVAL OF MINUTES MARCH 12, 2013

- **ITEMS MAY NOT BE TAKEN IN ORDER AS LISTED**

received
4/2/13

Philipstown Conservation Board
Town Hall, 238 Main Street, Cold Spring, NY 10516
MARCH 12, 2013
Minutes

DRAFT

The CB held its regular meeting at the Town Hall on Tuesday March 12, 2013. Mrs. Martin opened the meeting at 7:30 p.m.

Present: MJ Martin (Acting Chairperson)
David Klotzle (Wetlands Inspector)
Michael Leonard
Lew Kingsley
Bob Repetto
Andrew Galler
Tina Andress- Landolfi (Secretary)
Nancy Montgomery (Town Board Liaison)

Absent: Eric Lind (Chairman)
Mark Galezo

BAKER, DAVID TM#71.-2-20 WL-13-230
352 ROUTE 403
(RECONSTRUCT RETAINING WALL AND INSTALL POOL)

The applicant would like to upgrade and restore existing retaining wall and install a pool located within the 100 foot buffer. James Hartford with River Architects in Cold spring is representing the applicant. Mr. Hartford and the CB discussed the submitted plans. Mr. Hartford was told that no hay bails can be used, and that straw bails or core logs would need to be used in place of hay, also a detail on the type of silt fence, and the specs on the fence, and want it placed on the uphill side. Double row of silt fence will be required, planting plan and tree replanting recommendations. The applicant was required to also submit a plan showing the entire site. This application will be placed on the next agenda if all of new materials are submitted.

GLEICK, JAMES TM#82.-1-42.1 ZBAR
200 LONG AND WINDING RD.
(INSTALL RESIDENTIAL WIND TURBINE)

This applicant was referred to the CB by the Zoning Board of Appeals for their review and comments on a residential wind turbine. The CB had some concerns on the visual impact from different locations across the river and in other areas of the town. The Board would like to see more information on visual and more information on sound impacts pertaining to interference of migration, specifically high frequency sounds. A better survey of the location and where the turbine is located was requested, and a view shed analysis.The CB will visit the site, before a report is submitted. The CB determined that no wetlands would be impacted by this application, and the area of disturbance was not of any concern. The CB will try and get a report to the ZBA before their next meeting on April 8, 2013.

LYONS **TM# 17.-1.76.11** **PBR**

This application was referred to the CB by the Planning Board for their review and comments relating to steep slopes and wetlands. Mr. Kingsley visited the site and gave a detailed description of the site. The CB has not been able to visit the site yet due to snow on the property. Once the CB is able to visit, then they will be able to give a more specific report on the steep slopes.

DRAFT

APPROVAL OF FEBRUARY 12, 2013 MINUTES

The board reviewed the minutes. Mr. Galler stated that he felt more detail should be added to the minutes. Ms. Andress said that in a typical meeting more details would be given, but the last meeting had no contingencies or any information that would be additional due to the type of agenda items from last month, and it was not a typical. Ms. Martin entertained a motion to approve the minutes as submitted. Mr. Galler made a motion to approve the minutes as submitted. Mr. Leonard seconded the motion. All members were in favor. Minutes were approved.

RECORDER FAILED TO KEEP RECORDING DUE TO DEAD BATTERY

TOWN OF PHILIPSTOWN
PUTNAM COUNTY, NEWYORK

238 Main Street
Cold Spring, NY, 10516
(845) 265-5202

APPLICATION FOR WETLANDS PERMIT

Note to Applicant:

Submit the completed application to the appropriate permitting authoirty. The application for Wetlands Permit should be sumbitte simultaneously with any related application (e.g. subdivision approval, site plan approval, special use permit, etc.) being made to the permitting authority.

(Office Use Only)

Application # _____

Received by: _____

Date _____

Fee _____

☐ Permitting Authority

☐ Z.B.A

☐ Planning Board

☐ Wetlands Inspector

Pursuant to Chapter 93 of the Code of the Town of Philipstown, entitled "Freshwater Wetlands and Watercourse Law of the Town of Philipstown" (Wetlands Law), the undersigned hereby applies for a Wetlands Permit to conduct a regulated activity in a controlled area.

1. Owner; Name: David Weinpahl & Suzanne Bouchard

Address: 88 Foundry Pond Road

Telephone: 845-265-2354

2. Agent Name: Self

(Applicant must be owner of the land The Application may be managed by an authorized agent of such person possessing a notarized letter of consent from the owner.)

Name of Agent n/a

If Corporation, give names of officers:

n/a

n/a

Mailing Address n/a

Telephone: n/a

3. Location of Proposed Activity:

88 Foundry Pond Road

Tax Map No.: 27.6-1-1

Acreage of Controlled Area Affected: 8,500 Sq. Ft. or 0.195 Acres

4. Type of Activity: (See list of regulated activities)

Installation of a swimming pool and related amenities. Regulated Activities: 93-5A - Excavation; 93-5C Construction of a Swimming Pool; 93-5E - Pool End of Season Draw down (Salt)

5. Other permit(s) required and agency or agencies responsible for granting such permits such as but not limited to P.C.B.O.H., N.Y.D.E.C., Amry core of Engineers, EPA, DOT, Building Dept. Planning Board and Z.B.A.

Building Permit to construct pool.

6. Each copy of this application shall be accompanied by:

a. A detailed description of the proposed activity and a comparison of the acitivity to the criteria for approval specified in §93-8 of the Wetlands Law (see below)

b. A completed short form environmental assessment form.

c. A map prepared by a licensed surveyor landscape architect or engineer showing:

1. The controlled area(s) wetland buffer zone I 00 feat from the edge of any wetlands, lakes, ponds or streams on the site;

2. Any wetland or watercourse therein and the location thereof;

3. The location, extent, and nature of the proposed activity

D. The names of claimants of water rights in the wetland or watercourse of whom the applicant has record notice and the names and address of all owners of record of properties abutting and directly across from the proposed activity as shown on the latest tax record.

(Note: Any map, plat or plan showing the above information that is required to be submitted for any other permit or approval in connection with the regulated activity, and that is acceptable to the Permitting Authority, may be used.)

Date 25 March 2013

Signature of Applicant

PROJECT ID NUMBER

617.20
APPENDIX C
STATE ENVIRONMENTAL QUALITY REVIEW

SEQR

SHORT ENVIRONMENTAL ASSESSMENT FORM

for UNLISTED ACTIONS Only

PART I - PROJECT INFORMATION (To be completed by Applicant or Project Sponsor)

1. APPLICANT/SPONSOR
David Weinpahl & Suzanne Bouchard

2. PROJECT NAME
Wetlands Mitigation Plan prepared for David Weinpahl & Suzanne Bouchard

3. PROJECT LOCATION:
Municipality **Philipstown** County **Putnam**

4. PRECISE LOCATION: Street Address and Road Intersections, Prominent landmarks etc. or provide map
88 Foundry Pond Road

5. IS PROPOSED ACTION ☒ New ☐ Expansion ☐ Modification / alteration

6. DESCRIBE PROJECT BRIEFLY:
Installation of a swimming pool and related amenities.

7. AMOUNT OF LAND AFFECTED:
Initially **0.195** acres Ultimately **0.195** acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER RESTRICTIONS?
☒ Yes ☐ No If no, describe briefly:

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT? (Choose as many as apply.)
☒ Residential ☐ Industrial ☐ Commercial ☐ Agriculture ☐ Park / Forest / Open Space ☐ Other (describe)

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (Federal, State or Local)
☐ Yes ☒ No If yes, list agency name and permit/approval:

Building Permit required

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☐ Yes ☒ No If yes, list agency name and permit / approval:

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐ Yes ☒ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant / Sponsor Name **David Weinpahl & Suzanne Bouchard** Date: **March 26, 2013**

Signature _____ **Surveyor for Applicant**

If the action is a Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

PART II - IMPACT ASSESSMENT (To be completed by Lead Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.4?

☐ Yes ☐ No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.

☐ Yes ☐ No

C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic pattern, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly:

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly:

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly:

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly:

C7. Other impacts (including changes in use of either quantity or type of energy? Explain briefly:

D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CRITICAL ENVIRONMENTAL AREA (CEA)? (If yes, explain briefly:

☐ Yes ☐ No

E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS? If yes explain:

☐ Yes ☐ No

PART III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question d of part ii was checked yes, the determination of significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

☐ Check this box if you have identified one or more potentially large or significant adverse impacts which MAY occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

☐ Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts AND provide, on attachments as necessary, the reasons supporting this determination.

Name of Lead Agency

Date

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

Statement in Support
of the
Application
of

DAVID WEINPAHL & SUZANNE BOUCHARD

for a

FRESHWATER WETLANDS PERMIT

to conduct
REGULATED ACTIVITIES
within a
REGULATED AREA
as required under
CHAPTER 93
of the
CODE of the TOWN OF PHILIPSTOWN

Prepared and respectfully submitted by:
BADEY & WATSON,
Surveying and Engineering, P.C.
3063 U.S. Route 9
Cold Spring, NY 10516
(845) 265-9217 (voice)
(845) 265-4428 (fax)
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www.Badey-Watson.com

Project Location

David Weinpahl and Suzanne Bouchard are the owners of a 2.000-acre parcel in the Town of Philipstown. The property is designated on the Putnam County Tax Map for the Town as Sheet 27.6 Block 1, Lot 1. It is located on the westerly corner of Foundry Pond Road and Faust Court. The westerly property line is also the easterly property line of the Lower Reservoir of the Village of Cold Spring.

Regulated Activities Involved (§ 93-5)

The permit sought will allow the installation of a swimming pool and associated infrastructure. The installation of the pool involves:

- Excavation and Grading
- Construction of the pool
- Construction of a pool surround
- Construction of a pool fence
- Installation landscape features
- Installation of a permanent stormwater treatment system.

The following Regulated Activities are necessary for the installation of the pool:

- Excavation and grading of earth material (§93-5.A)
- Construction of a swimming pool (§93-5C)
- Introduction of salt into the earth (§93-5.E.)

Total anticipated disturbance within the controlled area is not expected to exceed 8,500 square feet.

Project Description

The subject property owned by the applicant is adjacent to the Lower Cold Spring Reservoir from which water eventually flows to the Village Water Treatment Plant of Fishkill Road.

The nearest corner of the pool will be located approximately 33 feet from the edge of the reservoir. An existing riprap channel located between the pool and the edge of the reservoir will be refurbished to improve its capacity to slow runoff and prevent erosion.

In addition to the pool, a concrete apron will be constructed around it. The area surrounding the pool will be landscaped. The landscaping will include the installation of native species and a rain garden to treat stormwater. A fence will be installed to satisfy building code requirements.

Temporary erosion control measures, which include silt fencing placed along the contours below the construction and around the soil stockpile area are shown on the plan.

The pool equipment and backwash chambers will be located in excess of 100 feet from the edge of the reservoir.

Comparison of the proposed activity to the Criteria for Approval § 93.8

Section 93-8, *Criteria for approval* sets forth eight (8) criteria that the Conservation Advisory Board and Permitting Authority must consider before a permit may be recommended or issued. The following is a list of them with a discussion of how the project compares to each criterion.

The activity will not have a substantial adverse effect upon the natural function and benefits of a wetland or watercourses as set forth in §93-2B.
The proposed activity includes the installation of both temporary and permanent erosion control measures that are designed to protect the reservoir by catching sediment before it reaches the water. These measures include silt fencing, a stabilized construction entrance, riprap channel and a rain garden.

The activity will not substantially change the natural channel of a watercourse or substantially inhibit the dynamics of a watercourse system.
The proposed activity will not have any affect on any stream channel. The existing runoff channel will be lined to prevent scouring and slow the entry of stormwater into the reservoir.

The activity will not result in the degrading or pollution of waters.
The plan for the proposed activity includes the installation of a rain garden and a stormwater filtering area to assure that degradation and pollution of the reservoir areas will not result.

The activity will not increase the potential for flooding.
The proposed activity encompasses only 8,500 square feet and much less of an increase in impervious surface area. The area is infinitesimal when compared to the watershed area of the reservoir. Since the area is so small there is no chance that additional flooding, is there is any flooding at present, will occur.

Sufficient provision has been made for control of pollution, erosion, siltation and sedimentation during and after conduct of the activity.
As discussed above, the plan specifies standard controls for dealing with pollution, erosion control and sedimentation both before and after construction. The backwash chambers will be place outside of the regulated area further protecting the reservoir.

No practicable alternative location is available on the subject parcel.
The applicant wishes to construct a swimming pool for the use and enjoyment of his family. This type of activity needs privacy that other areas of the property do not provide because it is a corner lot bounded by a public road on the south and a private road on the

east. Moreover, the septic system for the house is located in the southeasterly area of the lot, further complicating an alternate placement of the pool.

No additional technical improvements or safeguards can reasonably be added to the plan or activity, which would minimize the impact on a controlled area.
The restoration has been proposed so that the smallest practicable area will be disturbed. The safeguards provided are those specified by the latest State guidelines.

The activity will alleviate or remove a hazard to the public health or safety.
The proposed activity does not remove a hazard to the public health or safety.

Respectfully submitted on behalf of David Weinpahl and Suzanne Bouchard
BADEY & WATSON,
Surveying and Engineering, P.C.

Conservation Board Philipstown, NY April 9, 2013

Questions From March 2013 Conservation Board Meeting - Gleick Small Wind Project

1. Impact on Birds Specific Eagles
2. Visual Impact _ Manitou Train Station, Osborn, & Hudson Highlands
3. Low & High Frequency Sound

1. Impact on Birds Specific Eagles

The most current research and studies show death to Bald Eagles from windpower/turbines are related to the large scale commercial size structures on "wind farms", not small scale residential facilities. The blades on the commercial size turbines are 125 foot in length, whereas the blade on a residential turbine is 11.5 feet. A typical residential small wind project is a single structure nothing like rows and rows of 300 foot towers on a wind farm. There was no information found suggesting the location chosen for this particular small wind installation would have any harmful effect on the eagle population in Garrison.

2. Visual Impact - Manitou Train Station, Osborn, & Hudson Highlands

Currently there are several cell/transmission towers in Philipstown exceeding the 40ft height limit and with larger foot prints. The visual impact factor undoubtedly exists to which there is individual variability. Any commercial size tower has a substantially greater foot print and visual impact in comparison to a residential small wind turbine. The three sites suggested by the board as areas of interest were viewed during Sunday (3/24/13) balloon test. (see attached pictures)

Picture 1, Manitou Train Station – A.) 5x power, B.) 1x power. C.) Google aerial view

Picture 2. A.) Top of Osborn, B.) Google Hudson Highlands greater than15 miles away, C.) Osborn Google aerial view 8miles in distance

Picture 3. Sample Small Wind Visuals A.) 1x power ½ mile distance B.) 5x power ½ mile distance C.) 1x power 1 ½ mile distance D.) 5x power 1½ mile distance

3. Low & High Frequency Sound

All turbines can emit low frequency noise, irrespective of their size either in terms of electrical power (megawatts) or height. Current knowledge of the subject is that large wind turbines emit more noise than small ones, and should therefore not be located as close to properties. However, there is no clear correlation between the size of the wind turbine and the level of low frequency noise it emits. This depends more on construction type rather than size.Noise is unwanted sound. Noise can involve both high-pitched sounds (from high frequency sound waves) and deep sounds (from low frequency sound waves). Low frequency noise can for example be the hum or buzz from a compressor, rumble from a boiler or a combustion plant or the rumbling of an idling engine. Wind turbine noise emanates from the rotation of the blades and from the nacelle machinery. The noise from the blades is a characteristic swishing sound, which varies in rate with their rotation. Normally this does not contain much low frequency noise. Noise from the machinery can consist of both a high-pitched wailing (high frequency) and buzzing sounds (low frequency).

It is well established that many sounds within the audible range of birds, whether startling or biologically meaningful, can repel birds, although their effectiveness may be limited as to the species, situation, and duration. At the present time, however, it appears that there is little or no theoretical or scientific basis to support even a potential efficacy of ultrasonic sound-producing devices since birds generally do not hear in frequency ranges above 20,000 Hz.

FOR IMMEDIATE RELEASE
Feb. 11, 2009

COMMONWEALTH OF PENNSYLVANIA
Department of Conservation and Natural Resources
Commonwealth News Bureau
Room 308, Main Capitol
Harrisburg, PA 17120

CONTACT: Terry Brady
(717) 772-9101

STUDY FOCUSES ON BIRD, BAT LIFE AROUND PRESQUE ISLE FACILITY'S WIND TURBINE

HARRISBURG -- An independent study lasting almost two years has concluded a wind turbine poses no overt threat to bird and bat life while it generates supplemental power and serves as an educational aid at the Tom Ridge Environmental Center at Presque Isle State Park, Erie.

"Undertaken by a scientific team from fall 2006 to spring 2008, this intense bird and bat mortality study supports the Bureau of State Parks' decision to install small-scale wind turbines at Presque Isle and five other state parks," said Bureau Director John W. Norbeck. "Because of evidence of bird and bat kills at some sites with much larger generating turbines, DCNR wanted to know if there was reason to be concerned about erecting smaller units."

The Tom Ridge Environmental Center (TREC) study was overseen by Kenneth W. Andersen, Ph. D., Interim Associate Dean, Morosky College of Health Professions & Sciences, and Director, Science in Motion Gannon University. Assistants included Gannon University biology students and Presque Isle State Park managers and other employees.

"Evidence from this study suggests that the probability of bird and bat mortalities being caused by collisions with small monopod wind turbines is low," Dr. Andersen said in his report. "At the TREC site a diversity of songbirds are using the area daily without turbine-related

casualties, and the same is apparent with bats that are active nightly during their seasonal occurrence."

Erected in May 2007, the 120-foot wind turbine at Presque Isle is expected to generate approximately 10,000 kilowatt hours annually in supplemental power to the education center. Similar turbines were installed at the following state parks: Prince Gallitzin, Cambria County; Pymatuning, Crawford County; Tuscarora, Schuylkill County; Yellow Creek, Indiana County; and Promised Land, Pike County.

Ongoing monitoring at these five state park sites is being conducted by park personnel. Funded by a DCNR grant to the Regional Science Consortium, the TREC turbine study was selected for independent study because of the proximity of research facilities and the wealth of area bird life. Presque Isle is noted for bird migration, with more than 3,000 species in its ecosystem, including 130 that are threatened, endangered or rare.

"Besides monitoring for carcasses of birds and bats in the vicinity of the tower, the study determined what species of birds and bats occurred in the immediate area and evidence of their activity near the tower, " Dr. Andersen said in his report. "This report provides an overview of the study and its results, while specific investigations on bird and bat activities at the site continue to be analyzed for subsequent publication."

Dr. Andersen and his research teams conducted two types of bird surveys: direct observations with identifications made by either sight or song recognition; and recording of night flight calls of migrating birds through the use of microphones mounted on the roof of TREC. Presence of bats was determined at night by recording their ultrasound calls.

Meanwhile, searches for carcasses of birds and bats was initiated on May 25, 2007, and continued on a nearly daily basis through July 7, 2008, when the study ended. One bird, a

common grackle, was found dead in the search area on July 2, 2008, and sent to the Pennsylvania Game Commission for evaluation. Cause of death was undetermined but no external injuries were noted, and no other bird or bat carcasses were noted throughout this study.

Complete study methodology and findings can be found at www.dcnr.state.pa.us. Click on "Wind Energy and Wildlife" under "Hot Topics."

Hailed as the gateway to Presque Isle, TREC is dedicated to teaching visitors about Presque Isle and the many different forms of life that inhabit this unique, sandy peninsula jutting into Lake Erie. Officially dedicated in May 2006, the facility serves as a center for research, contributing to conservation efforts and promoting environmental awareness. For more TREC information, visit www.trecpi.org.

Presque Isle State Park currently averages four million visitors a year, most of whom come between June and September. DCNR manages TREC and the park, a 3,200-acre sand peninsula attached to the mainland, four miles west of downtown Erie. For more information on Presque Isle visit www.dcnr.state.pa.us.

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Bird Study at Presque Isle State Park in Erie, PA

Feb. 28, 2009

TRUTH ABOUT TURBINES: Those of us who care about birds have always had questions about whether wind turbines posed a severe threat to their survival. According to a nearly two-year independent study, the answer is no; at least at small-scale wind turbine sites. The study was conducted at the Tom Ridge Environmental Center at Presque Isle State Park in Erie.

"Undertaken by a scientific team from fall 2006 to spring 2008, this intensive bird and bat mortality study supports the Bureau of State Parks' decision to install small-scale wind turbines at Presque Isle State and five other state parks", according to Bureau Director John W. Norbeck. "Because of evidence of bird and bat kills at some sites with much larger generating turbines, DCNR wanted to know if there was reason to be concerned about erecting smaller units."

The TREC study was overseen by Kenneth W. Anderson, Ph.D., interim associate dean, Morosky College of Health Professions and Sciences, and director, Science in Motion, Gannon University.

"Evidence from this study suggests that the probability of bird and bat mortalities being caused by collisions with small monopod wind turbines is low," Dr. Anderson said in his report. "At the TREC site, a diversity of songbirds are using the area daily without turbine-related casualties, and the same is apparent with bats that are active nightly during their seasonal occurrence."

The 120-foot wind turbine at Presque Isle generates about 10,000 kilowatt hours of supplemental power to the education center. Similar wind turbines have been installed at Prince Gallitzin, Pymatuning, Tuscarora, Yellow Creek and Promised Land State Parks.

DWEA Briefing Paper: Birds / Avian Mortality

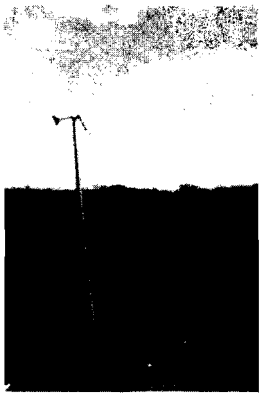
It's a Good and Common Question

Due to the abundance of press coverage of bird and bat kills by utility scale wind turbines, many people new to wind power have concerns about small wind turbines and birds. Some are surprised to learn that the National Audubon Society actually supports wind development, as articulated on their web site: "...Audubon strongly supports wind power as a clean alternative energy source that reduces the threat of global warming."

When addressing avian and other environmental impact issues, it is important to make distinctions between utility scale and small or community scale wind systems. Utility scale wind turbines are 3 to 5 times taller than their distributed wind counter parts, and their rotor diameters are 100 to 500 times larger. Some early utility-scale wind farms were constructed in avian migratory corridors resulting in serious avian impact issues (e.g., Altamont Pass, CA). However, it is well documented that small and community scale wind has little or no avian or bat impact (see DCNR TREC study below).

The Evidence Clears Small and Community Wind

Tens of thousands of small and community scale wind turbines have been installed in the U.S. over the last 30 years, providing broad experience with turbines in a variety of environments. Small wind systems are installed in city, state and national parks, national wildlife refuges, conservation districts, back yards of bird watchers, ornithological study areas with daily monitoring and in Audubon Society nature preserves. There is no evidence that small or community scale wind systems present a danger to birds or bats.



To the contrary, existing evidence exonerates small wind. A rigorous two-year scientific study[i] by the Pennsylvania DCNR of a 10 kW turbine on a 120 ft tower at the Tom Ridge Environmental Center at Presque Isle State Park in Erie, PA (see photo) resulted in only one grackle carcass in the vicinity of the turbine. The grackle had no external injuries, hence no evidence that it was actually harmed by the wind turbine. The DCNR report states, "Evidence from this study suggests that the probability of bird and bat mortalities being caused by collisions with small monopod wind turbines is low... At the TREC site a diversity of songbirds are using the area daily without turbine related casualties, and the same is apparent with bats that are active nightly during their seasonal occurrence."

Worry about Windows and Cats, not Small Wind

Human existence is far more hazardous to birds than wind turbines. According to Dr. Daniel Klem of Muhlenberg College, 100 – 900 million birds are killed each year in collisions with windows. The National Audubon Society estimates that 100 million bird deaths per year are attributable to house cats. Limiting small wind development based on concerns about avian impacts cannot be justified. This is true for all types of towers, including those with lattice structures and/or guy wires, in any color, and at any height. ***DWEA recommends that anyone asserting otherwise should be challenged to submit credible evidence.*** Additionally, any small or community scale wind turbine providers claiming to have "bird friendly" technology are engaging in sales hype; there is no evidence that small and/or community wind turbines, in any configuration, are in any way responsible for bird mortality.

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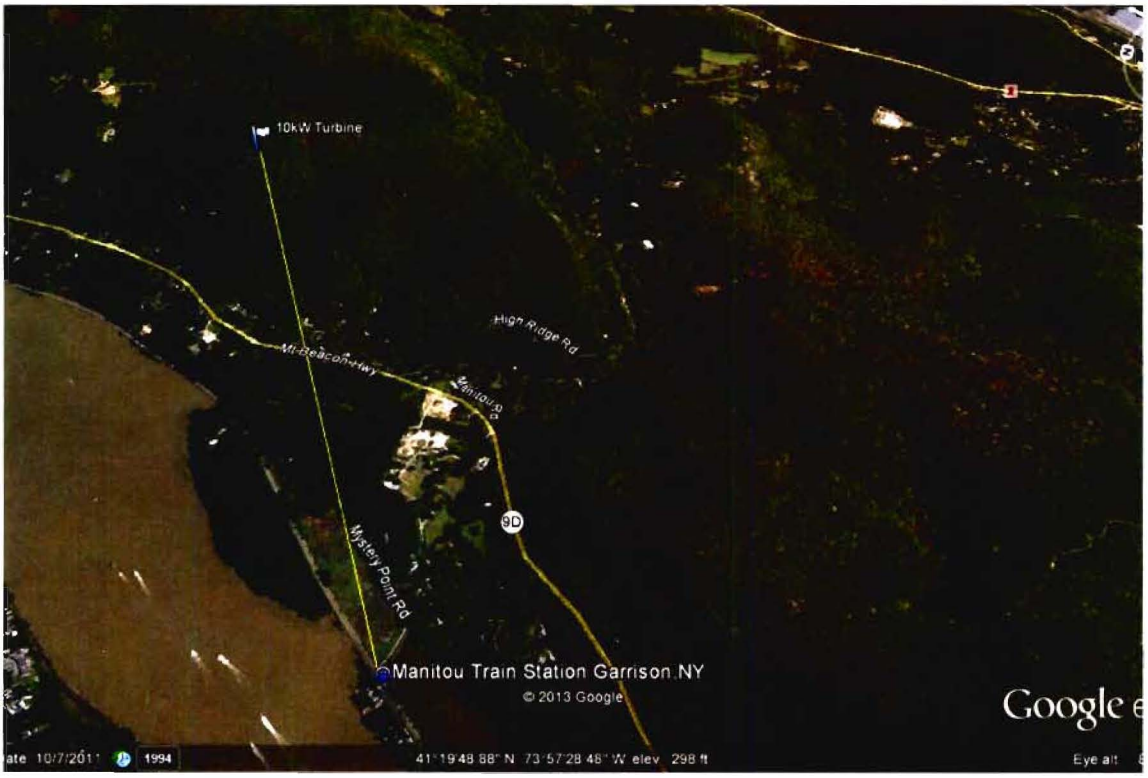
[i] "A Study of the Potential Effects of a Small Wind Turbine on Bird and Bat Mortality at the Tom Ridge Environmental Center, Erie, Pennsylvania," Dr. Kenneth W. Anderson, Gannon University, 12 December 2008.

B

A



C

Picture 1

A

B

C

Picture 2

A

B

C

D

Picture 3