Review of Bluestone Net Conservation Benefit Plan

Task 5

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Delaware-Otsego Audubon Society

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Prepared by:

Tricia A. Miller, Ph.D.

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Introduction

The Bluestone Wind Project (BWP) has been proposed for construction on the Northern Allegheny Plateau in Broome County, New York. Because both Bald and Golden Eagles are known to be killed by wind turbines and are federally protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (Pagel et al. 2013), the U.S. Fish and Wildlife Service recommends that wind energy projects conduct surveys for eagles as part of a risk assessment to determine if eagles are likely to be incidentally taken at a facility during normal operating of that facility (USFWS 2013). WEST, Inc. (hereafter, WEST) was contracted to conduct eagle use surveys for BWP.

Delaware-Otsego Audubon Society (DOAS) requested New York State Article 10 Siting Process Intervenor Funding in October 2017 to garner funds to assess telemetry data and conduct independent surveys of the project area for raptors including eagles. DOAS requested intervenor funds for a second time in February 2019 so that, among other things, materials and reports could receive an independent review by an outside scientist and eagle expert.

The purpose of this report is to review the Bluestone Net Conservation Benefit Plan (NCBP). This review was conducted in a manner similar to peer review of a scientific manuscript.

Review

The NCBP is an assessment of both temporary and long-term risk to state listed species from the construction and operation of wind turbines. It lists mitigation measures that BWP will undertake to ensure a net benefit to species that are expected to be negatively affected by the facility. Species covered by the NCBP are the state threatened Northern Long-Eared Bat (*Myotis septentrionalis*) and Bald Eagle (*Haliaeetus leucocephalus*), and the state endangered Golden Eagle (*Aquila chrysaetos*). BWP is requesting a take permit for 16 Northern Long-Eared Bats, 6 Bald Eagles and 3 Golden Eagles, which are the estimated takes for the expected 30-year lifetime of the facility. Northern Long-eared Bats are expected to be affected by clearing prior to construction while eagles are expected to be affected by normal operations of the wind facility once constructed. In general, the NCBP provides much information to back up the proposed plans. However, there were some things that were not clear and some assumptions that were not supported by literature. Specific comments about these are below:

P 10. Section 3.2.2 – Habitat and Seasonal Use

> "*Aerial surveys were completed in a previous, larger Project Area…*"
>
> This is confusing because in the Avian Risk Assessment and the Eagle Use Surveys there is no mention of a reduction of the size of the project area. The two documents only mentioned that the Year 1 project area was smaller than the Year 2 project area and there was a shift in Year 2 to the northeast. Moreover, it is unclear as to whether take estimates were calculated from the larger, Year 2 project area or the smaller final project area mentioned in this section. These should be clarified.

P 12 Section 3.3 Golden Eagles

> *"Golden eagles primarily feed on live mammals such as ground squirrels and fawns in upland habitats; however, they will feed on carrion and waterfowl as well during the winter (NYSDEC 2018b)."*

Ground squirrels do not occur in New York. It would be best to include information here that is relevant to the project area.

P 12-13 Section 3.3.2 Golden Eagle Habitat and Seasonal Use

"*They tend to migrate midday along north/south cliffs and ridges using thermals."*

Orographic updrafts are also commonly used during migration (Kerlinger 1989, Lanzone et al. 2012, Katzner et al. 2015).

"*These data indicate relatively low levels of use by golden eagle in the Facility Site by telemetered golden eagles during spring, fall, and winter*."

Relatively low use **by telemetered** Golden Eagles in winter is more likely a result of the study sample of Golden Eagles rather than the absence of Golden Eagles from the project area. The project area is located on the Northern Allegheny Plateau where many wintering Golden Eagles occur and is composed of forested terrain with relatively high topographic relief, which is Golden Eagle wintering habitat (Duerr et al. *in press*, Katzner et al. 2012, Miller et al. 2017). Telemetry data also indicate use of the area for stopover. Additionally, DOAS and WEST observations indicate winter use by juvenile/young sub-adult Golden Eagles and DOAS data indicate winter use by adults/older sub-adults.

"*flight height data indicate that many of the telemetered golden eagles were recorded above the rotor swept zone for turbines proposed to be built at the Facility during the spring and fall, indicating potentially lower levels of exposure to wind turbines in the Facility.*"

Telemetry data collected in the Project Area at a higher temporal resolution, indicated that telemetered Golden Eagles flew at low altitudes in the Project Area where 73% of locations during stopover and fall migration were below 200 m AGL (see Task 1 report on Assessment of seasonal status of Golden Eagles observed in the Bluestone Wind Project Area). Additionally, Miller et al. (2014) showed that areas with similar land cover and topography <9 km (5.6 miles) to the south and also on the Northern Allegheny Plateau provide excellent habitat for low flying (<150 m AGL) Golden Eagles during migration.

P 20 Section 4.2.2 Bald Eagle Collision Risk

"*Bald eagles commonly soar at high altitudes while foraging…*"

Bald Eagles typically fly at low altitudes while foraging or hunt from perches (author's unpublished data; Buehler 2000). Bald Eagles rarely soar at high altitudes for foraging, typically flying at high altitudes when moving from place to place.

P 22 Section 4.3.1 Golden Eagle Habitat Loss and Displacement

"*Only two golden eagles were observed during the late-winter in the Facility and wintering telemetered golden eagles were only recorded near Cannonsville Reservoir, likely because it provided better foraging and wintering roost opportunities than the Facility. Public hunting within the Cannonsville Reservoir may provide white-tailed deer [*Odocoileus virginianus*] gut piles that attract golden eagles, whereas the dense forested habitat in the Facility likely limits the amount of foraging or scavenging opportunities for golden eagles. It is not anticipated that construction or operation of the Facility will impact wintering golden eagles*."

BWP is <6 km (3.7 miles) from Cannonsville Reservoir. The land cover and terrain west of the reservoir (where these eagles wintered) are essentially the same (e.g., forested with relatively high topographic relief) as the project area. Golden Eagles are not attracted to water; they prefer upland areas as was noted in Section 3.3. The two eagles wintering **near** Cannonsville Reservoir were using the same type of habitat that exists at BWP – forested hills and ridges with small openings (author's unpublished data). This is characteristic habitat for Golden Eagles in winter (Duerr et al. *in press*, Miller 2012, 2015, Miller et al. 2017). Forest does not limit foraging of Golden Eagles in winter. This is supported by visual observations and telemetry data (author's pers. obs., EGEWG unpublished data). The ground beneath the leafless canopy is easily visible to an eagle foraging on the wing and the trees within forest provide hunting perches and roosting areas. It is unlikely that construction and operation *will not* affect wintering Golden Eagles in some way.

P 23 Section 4.3.2 Golden Eagle Collision Risk

"*Additionally, the telemetered golden eagle data (Figures 3.3 and 3.4) show that over the nine years of data collection, few golden eagle flights were recorded over the Facility Site during the spring and fall migration, and when flights occurred over the Facility Site they were above the RSH for turbines that are considered for construction indicating that those golden eagles may be at lower risk for collision. Only two golden eagles were observed during the late-winter on-site eagle use surveys (Ritzert et al. 2018b) and winter records (Figure 3.5) of telemetered golden eagles show use closer to Cannonsville Reservoir that may provide better foraging opportunities such as carrion and waterfowl (NYSDEC 2016b) for golden eagles during winter*."

See comments above regarding telemetry data (P 12-13 Section 3.3.2 Golden Eagle Habitat and Seasonal Use) and regarding habitat (P 22 Section 4.3.1 Golden Eagle Habitat Loss and Displacement)

P 23 Section 4.3.3 Golden Eagle Population Status and Local Area Population Thresholds

"Extrapolating the estimated golden eagle take to the nationwide golden eagle population (approximately 39,000 golden eagles; USFWS 2016a) reduces the percentage below 0.01% of the total golden eagle population."

Unless required by the State of New York or USFWS, this is irrelevant.

*"The estimated take resulting from the Facility site, **should any occur**, will be offset with compensatory mitigation that will provide a net conservation benefit to the species."*

What does "should any occur" mean here? It implies that compensatory mitigation will only be offset if it occurs. "Should any occur" should be deleted.

P 24 Section 4.3.4 Golden Eagle Conclusions

"the highest known densities of wintering eastern golden eagles are in Central Appalachia in West Virginia and Virginia. Therefore, the primary times that golden eagles may occur over the Facility are during spring and fall migration as demonstrated by the on-site survey data and telemetered golden eagle data."

Because the highest known densities are along the West Virginia/Virginia border is not a valid reason for this statement. Detection of Golden Eagles during winter is difficult because they tend to use dense forest away from people. Camera trapping efforts across the eastern USA have shown that Golden Eagles occur in nearly every state east of the Mississippi during winter (Jachowski et al. 2015; T. Katzner, USGS, pers. comm.). These observations typically occur in the same type of habitat that is found on BWP, i.e., forested habitat with relatively high topographic relief but they also occur in flatter areas of the coastal plain and unexpected areas like the pine forests of Alabama and New Jersey. Previously, few if any people realized the extent to which Golden Eagles were distributed across the region (see Millsap and Vana 1984). Millsap and Vana (1984) suggested that Golden Eagles were found in the greatest numbers in the coastal plain and along rivers and wetlands where they could feed on waterfowl; eagle surveys showed a complete absence of Golden Eagles from the West Virginia – Virginia border, the area that is now thought to hold the highest density of wintering Golden Eagles. Millsap and Vana (1984) relied on incidental observations and surveys designed to count conspicuous Bald Eagles in their habitat. Furthermore, they noted that the areas where Golden Eagles were reported likely coincided with areas that were accessible to people and, therefore, their results may be misleading.

Additionally, the telemetered golden eagle data provided by DOAS demonstrates that golden eagles migrate more frequently over areas around the Facility Site and when golden eagles do migrate over the Facility they do so a heights above the RSH for turbines considered for Facility Site."

As noted above, additional higher temporal resolution telemetry data collected in the project area show use of the site during stopover and migration with most (73%) of those movements during fall and stopover below <200 m AGL and about 44% below <200 m AGL during spring.

P 28 Table 5.1

In addition to hunter education, lead-free ammunition should be supplied to hunters in the area. It would be best to work with an organization or individual that has demonstrated success at implementing lead abatement programs, such as Chris Parish at the Peregrine Fund.

Electrocution is not a known cause of death for Golden Eagles in eastern North America. Bald Eagles in the forested landscape are also not likely to be at high risk of electrocution. If an additional means of compensatory mitigation is required, more effective means of compensatory mitigation for both species would be road-kill removal, especially along railways and on roadways near concentrations of Bald Eagles. See Miller 2019 Report on Compensatory Mitigation.

P 39 Section 5.3.2 –

"At least 30 searcher efficiency trials will occur in the winter using large decoys (i.e., turkeys) to not attract eagles to the turbines."

Turkeys are one of the food sources for Golden Eagles in winter. You may want to consider another type of decoy!

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