

DELAWARE-OTSEGO AUDUBON SOCIETY, INC.

P.O. Box 544, ONEONTA, NY 13820

Date: September 7, 2017

**Comments on the Preliminary Scoping Statement for the Bluestone Wind Power
Project
Case No. 16-F-0559**

The Delaware-Otsego Audubon Society (DOAS) is the local Chapter of the National Audubon Society in the region including the Bluestone Wind Project area. Our organization has been involved with observing and monitoring bird populations for five decades, and for the past 25+ years has been particularly focused on raptor occurrence, movement and well-being in this region.

In addition, DOAS has been involved in environmental reviews of five wind farm proposals, including supporting one of NY State's first projects in Madison County through purchase of wind credits. We have adopted a formal position supporting properly-sited wind power as an alternative to fossil-fueled energy generation (attached).

We have operated the Franklin Mountain Hawkwatch, one of eastern North America's premier fall raptor migration monitoring sites, for 27 years, averaging nearly 800 hours of coverage in the 16 years since full-time counting began. Coverage at Franklin Mt. extends from August until January, and an average of over 5000 raptors are tallied each season.

The Bluestone Wind project area is approximately 35 miles southwest of the Franklin Mt. Hawkwatch, the predominant flight direction for fall migrating raptors. This is also the direction raptors travel to reach the ridge and valley area of Pennsylvania that is well-documented as a critical migration route for these birds. In addition, the region is known as a concentration area for eagles migrating north in spring.

In addition, DOAS has held annual field trips and recorded other observations of raptors, particularly Bald Eagles, at the Cannonsville Reservoir, five miles east of the project area. These observations typically result in daily counts of >30 eagles on and near the reservoir. The NY State Department of Environmental Conservation (NYSDEC) and the US Fish & Wildlife Service (USFWS) have regularly surveyed the region for eagles and find one of the highest concentrations of breeding and wintering Bald Eagles in the eastern United States. Eagles are known as wide-ranging birds, and no doubt frequently travel through the project area from their nesting and wintering sites.

DOAS has also conducted other research on raptors in this region, described below. These long-term studies plus information from other sources add up to a significant body of evidence indicating that an expanded effort should be made to monitor and document the presence and risk to raptors in the project area.

DOAS has met with representatives of Calpine and WEST on 2 occasions to discuss our concerns about wildlife in the project area: in person on June 21, 2017; and, in a conference call August 31, 2017. We also expressed our concerns to Brianna Denoncour of NYSDEC and Thomas Wittig of USFWS in a conference call on August 16, 2017.

Following these discussions, and after reviewing the Preliminary Scoping Statement for the Bluestone Project, we do not believe the monitoring plans put forth in the PSS are adequate to assess risks and impacts to eagles, other raptors and other wildlife posed by the Bluestone Wind Project. With this in mind, we submit these comments detailing what DOAS believes needs to be done to properly determine these threats.

Timber Rattlesnakes

A historic timber rattlesnake den – as per a conversation with Briana Denoncour at NYSDEC – was believed to be in the project area. Timber rattlesnake is a New York State Threatened Species. While no reports of rattlesnakes have been recorded recently, new technology allows for a simple and inexpensive way to determine current use of the site. The den should be monitored by time activated wildlife camera to detect any presence of rattlesnakes. Cameras' infrared sensors have proved ineffective for cold blooded species, thus the need to have photos taken every minute.

The Project is a Migratory Concentration Area for Eagles

We have reviewed the work plans Calpine and consulting firm WEST use for their avian studies. These plans do not follow NYSDEC guidelines in numerous instances, and are not adequate to provide an accurate picture of the presence, use, and movement of eagles in the project area. Data on the magnitude of the eagle migration should have been considered by the project sponsor before the raptor migration work plan was drafted, as per NYSDEC guidelines.¹ USFWS guidelines likewise call for consultation

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Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects. NYSDEC:

a. Compile existing information on bird and bat resources

Prior to expending significant effort in planning a wind energy project, the developer should compile existing information on bird and bat resources at the site and in the surrounding area, including available relevant information from other existing or proposed wind energy projects. The following sources should be consulted:

- i. The DEC Central Office Division of Environmental Permits (DEP) and Division of Fish, Wildlife and Marine Resources (DFWMR) should be the initial point of contact for information regarding the environmental review and assessment process for wind energy development;*
- ii. The New York Natural Heritage Program (NYNHP) should be contacted for information on known state and federally listed endangered, threatened, and special concern species and sensitive ecological communities that may be located in or near the proposed project site and surrounding area;*
- iii. Screen the project and surrounding area using New York's Environmental Resource Mapper, Nature Explorer, and Biodiversity and Wind Siting Mapping Tool*
- iv. Biologists in the DEC Regional office(s), as applicable to the project location, should be contacted for available information on specific resources within the site and in the surrounding area;*
- v. To the extent required by the US Fish and Wildlife Service (USFWS), information collected through the use of DEC's guidelines should be provided to the USFWS. The USFWS Ecological Services New York Field Office should also be contacted for information on federally listed species that may be present within or near a proposed project area;*
- vi. Local ornithologists, Audubon Societies, birding clubs, hawk watches, and nature centers can provide specific information about bird and bat resources, as well as further information on data from the New York Breeding Bird Survey (BBS), Breeding Bird Atlas (BBA), eBird, and Christmas Bird Count (CBC);***
- vii. Biologists in the Bureau of Wildlife's Wildlife Diversity Unit can provide site specific information regarding the proximity of bat hibernacula and summer roosting areas, as well as information on*

with conservation organizations early in the siting process to obtain information and data on " . . . *potential known critical areas of wildlife congregation, including, but not limited to: maternity roosts, hibernacula, staging areas, winter ranges, nesting sites, migration stopovers or corridors, leks, or other areas of seasonal importance.*"² This was not done — there was no contact with our organization or others who could have provided valuable information prior to preparation of the work plans before it was submitted to NYSDEC. Bluestone Wind LLC. states in its Public Involvement Program Plan "preliminary environmental reviews...have not indicated any significant wildlife or unique natural habitat concerns." **As a result of the shortcomings of those preliminary reviews, monitoring that has been done by the developer, and that which is ongoing, is inadequate given the known presence of at risk species in the region.**

The plans are clearly insufficient for assessing risk to the NYS state Endangered Species Golden Eagle - the species for which we have the most concern. Significant data is available showing the project area falls within a migratory concentration point for this species. These data include:

- A map created for the NY State Energy Research and Development Authority in 2013 by Trish Miller of West Virginia University (attached) showing 98 GPS tracks of Golden Eagles migrating through New York, with concentration through the project area. Four additional years of this data is now available and detailed maps need to be acquired for the project area.
- The fall Franklin Mountain Hawk Watch (FMHW) is a noteworthy site for this species. It records the highest numbers of Golden Eagles of any count site in New York (231 in 2016) and is 35 miles NE of the project area. In this region, soaring raptor species such as Golden Eagle move NE-SW in fall and SW-NE in spring. For these migrating raptors, the project is directly in line with FMHW.³
- In 2009, DOAS conducted a focused spring raptor count 12 miles east of the project area covering an area 5 ½ miles wide. This effort counted 100 eagles of both species in 9 days.⁴
- FMHW surveys, the spring surveys conducted in 2009 by DOAS and the paper Utilization Probability Map for Migrating Bald Eagles in Northeastern North America (Mojica et al),⁵ also indicate the area is a migratory concentration area for Bald Eagle.

technical research being conducted within New York; and

viii. Bat Conservation International (BCI) can provide general information about bats and bat biology. (Emphasis added)

2

U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines,

https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf

3

www.hawkcount.org/siteinfo.php?rsite=361

4

http://doas.us/wp-content/uploads/2013/04/DELA_Eagle_Count_Report_3-09.pdf

5

Mojica EK, Watts BD, Turrin CL (2016) *Utilization Probability Map for Migrating Bald Eagles in Northeastern North America: A Tool for Siting Wind Energy Facilities and Other Flight Hazards*. PLoS ONE 11(6): e0157807.
<https://doi.org/10.1371/journal.pone.0157807>

The Bluestone Wind project's raptor migration survey data has not been released. This prevents us from, 1) examining the quality of the data; 2) knowing whether days of high or low eagle movement were covered; and, 3) comparing the daily counts to regional hawk watch sites. Access to these data would have helped better inform these comments on the PSS.

Observations at FMHW and other raptor monitoring sites show that Golden Eagle movements can be very concentrated in both time and space. Temporally this is both a seasonal and daily phenomena. One day a week of migration surveying cannot provide sufficient data for a species with such a weather-sensitive and time-focused migration. In 2016, 231 migrating Golden Eagles were recorded at the Franklin Mountain Hawk Watch. Of those eagles, 74% were surveyed in a 2 week period (10/28-11/11).) and 69% of the 231 birds passed through on 6 individual days. With such a concentrated migration, one day of surveying each week, as carried out per the Bluestone Wind plan, provides too little data to determine risk.

If this project work plan schedule had been followed to the letter at FMHW, the timing could have resulted in the recording of just one Golden Eagle of the total of 231 seen during fall 2016. (2016 FMHW daily counts attached.) As noted, we have not seen the survey data. Even so, it is clear that the limited amount of coverage provided by the company's eagle survey protocol makes it impossible to extrapolate accurately what is moving through the project area.

The NYSDEC Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects read "*Expanded raptor migration surveys may be justified for projects proposed to be sited on a ridgeline, in a known or suspected raptor migration route*". (emphasis added). There is strong evidence that the project area is in a known migration route for both a NYS Endangered Species, and a NYS Threatened Species – Golden and Bald Eagles, as well as other species of raptor. Expanded raptor migration surveys are necessary for this project and should include a minimum of two years of spring and fall observations, with coverage on all days conducive to raptor movement.

In addition, if data from preliminary observations do not indicate significant numbers of migrating raptors, additional monitoring sites should be established in the project area to ensure adequate spatial coverage is carried out.

The developer has informed us that in their view, the work plan is adequate for assessing risk to migrating eagles and other raptors. Given our long-term experience and the amount of evidence to the contrary, we disagree. We believe a thorough independent survey effort is required.

If the developer agrees to conduct further studies of eagle migration, DOAS requests that we be involved in guiding the scope of this effort. Planning for the 2017 fall Golden Eagle migration peak should begin immediately to avoid delaying the project. Timing of these fall surveys should be based upon the average migration peaks at FMHW (October 25 – November 25). Every potential flight day should be surveyed during this peak period. This includes every day with NW winds, every dry day, and also days with occasional or light showers. Days with constant rain need not be surveyed. Spring migration surveys should likewise be carried out during favorable weather conditions, which are more variable in the spring. The survey period should be timed according to active spring hawk watch sites with high numbers of Golden Eagles in Pennsylvania, (e.g. Tussey Mountain (approximately March 1 – March 21).

We consider the Golden Eagle GPS tracking data from Trish Miller et. al.- showing the project to be a migratory bottleneck concentration corridor –to be essential for determining the magnitude of the migration in the immediate project

area, and also for judging the effectiveness of the chosen migration survey locations.

As noted earlier, Golden Eagles may follow narrow migration paths. Detailed GPS mapping, can provide the best available information on how they these birds use the project area. We have recommended that the developer contract with Dr. Miller to acquire these data in the form of detailed, spring and fall seasonal maps showing individual eagle tracks and the birds' elevations. As of the submission of these comments, the developer has not confirmed that they are committed to this course of action.

Additional Effort is Needed to Survey Winter Resident Golden Eagles

DOAS has extensive experience surveying Golden Eagles in winter. We have operated more than 20 camera trapping sites since 2010. Camera trapping uses a baited motion activated wildlife camera placed strategically high on the landscape in mostly forested areas to record the presence of scavenging species. Nine of these sites were in Delaware County, the county directly east of the project area with similar terrain and habitat. Delaware County sites have recorded the highest number of individual winter resident Golden Eagles of any survey sites locations in New York – as many as 10 individuals at some sites. No camera trapping of this sort has been done in Broome County. The closest site to the project was 30 miles east. This site recorded multiple Golden Eagles in January and February of 2016.

DOAS has trapped and GPS tagged eight winter resident Golden Eagles, seven of these in Delaware County. The Delaware birds were trapped 40 miles east of the project. However, data from the tracking devices shows the winter core range habitat of these birds is essentially the same as the terrain and habitat of the project area.

DOAS has also conducted intense and thorough on-the-ground searches for the species during the winters of 2015 and 2016. Even where eagles were known to be in the area, these surveys were generally ineffective at locating Golden Eagles. Away from the baited sites, survey teams found one Golden Eagle for every 26.6 hours of survey time (per team). Considering our experience with ground surveys, we would expect the hourly eagle surveys being conducted by the developer to find few Golden Eagles, even if they are present.

Based upon our eight years of winter surveys in Delaware and Otsego Counties, we believe the only effective way to determine their presence in heavily wooded and hilly habitat during this season is camera trapping. The developer should include camera trapping as a way of sampling Golden Eagles in winter. While this activity could interfere with ongoing hourly point count surveys, it is possible to schedule these so that the different types of surveys do not conflict. Camera trapping should follow the Appalachian Eagle Project protocol (<http://www.appalachianeagles.org/>).

Other Deficiencies

There are other deficiencies in the avian work plans. There is no provision for monitoring nocturnal migrating songbird migration. The risk to these birds from wind turbines is well-documented, and abundance is a primary factor in assessing this risk. The project area is in the migratory path for any number of state and federally endangered, threatened or otherwise at risk songbird species, including but not limited to Bicknell's Thrush, Henslow's Sparrow, Sedge Wren, American Bittern, Common Nighthawk, Golden-winged Warbler, Cerulean Warbler, and Grasshopper Sparrow.

In addition, many declining neo-tropical migrants pass through the region spring and fall, such as Wood Thrush, Scarlet Tanager, Yellow-billed Cuckoo, Ruby-throated Hummingbird, and Louisiana Waterthrush.

There needs to be an assessment of the presence of these species throughout the project area, however, there is no mention in the PSS of surveying for migrating songbirds, again contrary to DEC guidelines: "*Migrating bird surveys should be conducted a minimum of once per week throughout the spring and fall (March 15 to May 15; August 15 to October 31).*" Likewise, USFWS guidelines state: "*Developers should monitor potential sites to determine the types of migratory species present, what type of spatial and temporal use these species make of the site (e.g., chronology of migration or other use), and the ecological function the site may provide in terms of the migration cycle of these species. Wind developers should determine not only what species may migrate through a proposed development site and when, but also whether a site may function as a staging area or stopover habitat for wildlife on their migration pathway.*"

We believe that at a minimum, auditory surveys of nocturnal migrating songbirds should be conducted in the project area, and that if a significant movement of these birds occurs, further studies, including radar surveys are warranted to determine the magnitude of the flight and its elevation in regards to the terrain.

We hope that these comments on the Preliminary Scoping Statement will help bring about a complete and accurate assessment of bird and other wildlife impacts from the Bluestone Wind project prior to a completed application for an Article 10 permit.

Respectfully submitted,

Andrew Mason, Co-President
Thomas Salo, Director
Delaware-Otsego Audubon Society, Inc.

Attachments:

DOAS wind power position
2013 NYSEDA map
2016 Franklin Mountain Hawk Watch Data Sheet



DELAWARE-OTSEGO AUDUBON SOCIETY, INC.

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Position on Wind Power Development

The Delaware-Otsego Audubon Society supports development of renewable resources to provide energy in our region, the state, and beyond. Continued dependence on fossil fuels and nuclear power carries with it serious environmental consequences including air and water pollution, toxic waste and the threat of global warming. These impacts in turn negatively affect wildlife--including birds--through degradation and alteration of habitat, and the direct effects of pollution on health and reproduction.

Wind energy shows great promise as a renewable resource, and provides an opportunity to meet at least a portion of our energy requirements locally. Wind power is non-polluting, is essentially free beyond initial equipment costs and maintenance, and can be utilized immediately in the existing energy infrastructure.

However, all methods of energy production, even those using renewable resources, do have some environmental impacts. Wind power is no exception. Modern wind turbines are large structures that may visually disrupt the existing landscape. The turbines also create moderate sound while operating. Habitat may be disturbed by the towers and related facilities.

Of greatest concern to DOAS is the potential of impacts to birds, and bats, from wind turbine blades and towers, and, significant degradation or fragmentation of habitats. Some wind farms, especially one located in a major hawk and eagle winter foraging area, have caused significant mortality from collisions with blades, towers and guy wires. However, more modern turbine designs with slower rotating blades, monopole towers, and minimal lighting have reduced dangers to birds. Even though little mortality has been found at some existing sites, surveys assessing these impacts have been limited. Also, few projects have been built in areas where raptors and other species are known to concentrate during migration and seasonally. Ridges and shorelines, which are closely followed by some species during migration, are often good areas for wind power development. These areas are increasingly being considered for such development.

In addition, knowledge of specific bird migration routes and seasonal concentration areas is very limited. Without site-specific surveys, it is impossible to assess the risk to birds from wind turbines.

A significant portion of the eastern population of Golden Eagle migrates through Delaware and Otsego Counties. The Franklin Mountain Hawkwatch in Davenport records large numbers of Golden Eagles each fall. This New York State endangered species has also been described by a researcher as being the raptor species at “the highest risk” for impacts from wind projects. Recent surveys by our organization have documented significant winter populations of Bald and Golden Eagles in this region.

Thousands of Red-tailed Hawks also pass through our area annually. Among raptors, this species is predicted to suffer “the most collisions” from wind turbines. Besides the observations at Franklin Mountain, little else is known about how Golden Eagles and Red-tailed Hawks travel through the area. With up to 60,000 wind turbines expected to be built in the United States in coming years, it is important that wind farms be sited away from areas of bird concentrations or movements.

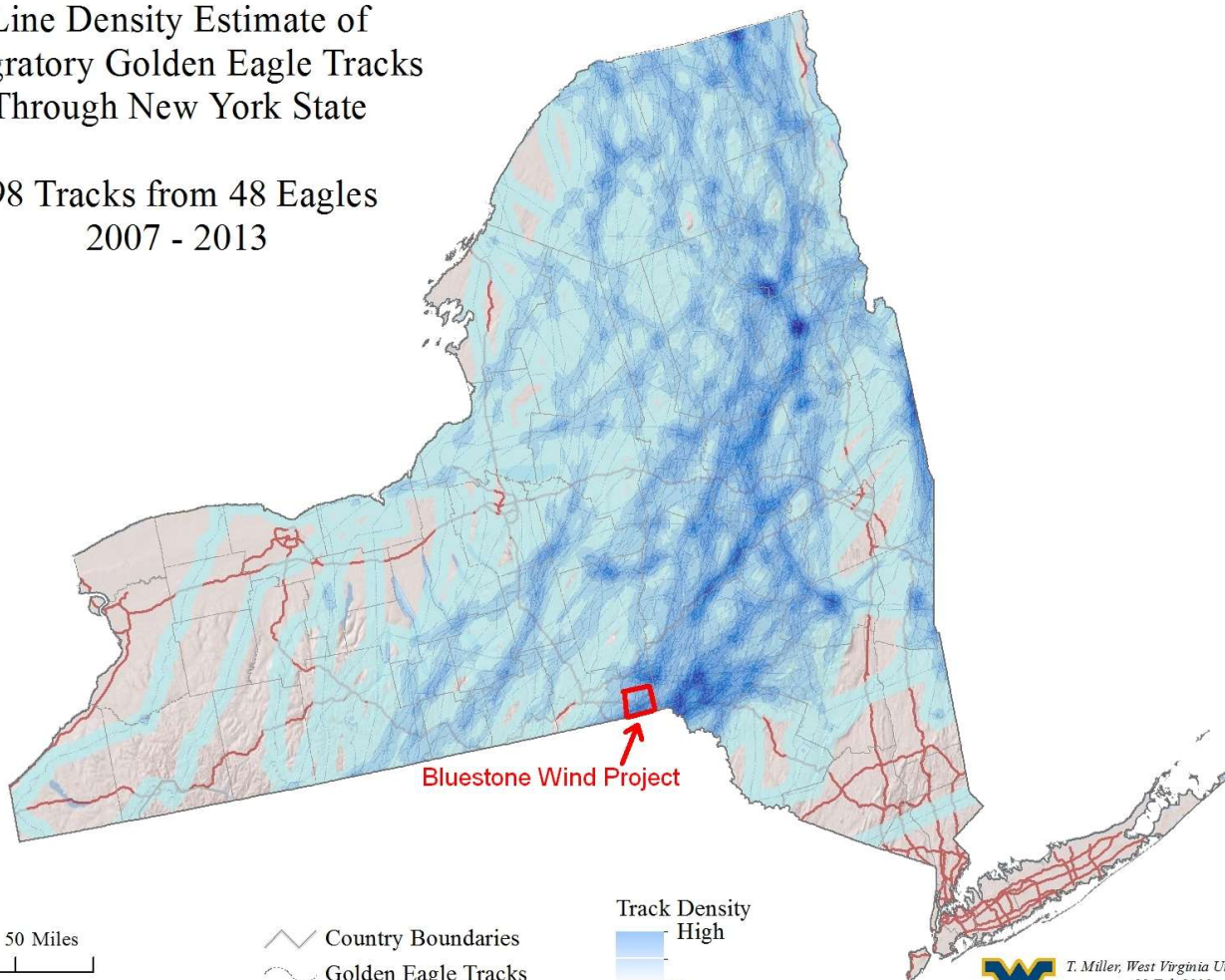
Our organization urges that for these projects thorough assessments on the impacts to bats and birds be prepared and reviewed prior to approval by the appropriate agencies, and, that these assessments include multi-year fall and spring surveys of bird migration in the vicinity of proposed wind power sites. Reviews should also utilize the NY State Environmental Quality Review Act to evaluate the cumulative impacts of multiple wind projects in the region.

Since the development of wind farms is increasing, and knowledge of their effects on flying species is limited, DOAS also supports additional studies, to be conducted after the projects are operational, to determine actual impacts to bats and birds. Such studies would also benefit the wind industry by providing information on siting projects to avoid conflicts with birds. The value of these post-construction mortality studies is dependent upon them being made available to the public. In addition, we urge that any project's approval be contingent on the developer and operator following the most current version of the U.S. Fish and Wildlife Service's recommendations for reducing risk and avoiding bird collisions with turbines.

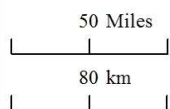
Approved May 15, 2007
Revised April 17, 2012

Line Density Estimate of Migratory Golden Eagle Tracks Through New York State

98 Tracks from 48 Eagles
2007 - 2013



Bluestone Wind Project



- Country Boundaries
- Golden Eagle Tracks
- Interstates

Track Density
High
Low



T. Müller, West Virginia University
22 Feb 2013
Background data: ESRI
Projection: Equidistant Conic

FRANKLIN MT. HAWKWATCH 2016 DAILY TOTALS

Date	HRS	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	RT	RL	GE	AK	ML	PG	UR	TOT
8/22	3.3	0	0	0	0	0	4	1	0	0	8	0	0	0	1	0	0	0	14
8/29	6.8	0	0	1	2	1	3	0	1	0	24	3	0	0	0	0	0	1	36
8/30	6.0	0	0	1	1	1	2	0	0	0	5	0	0	0	0	0	0	0	10
8/31	3.0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9/1	6.0	0	0	0	1	0	2	1	0	0	34	5	0	0	0	0	0	2	45
9/2	6.0	0	0	0	0	1	2	1	0	0	24	0	0	0	1	0	0	0	29
9/3	6.0	0	0	1	0	0	4	0	0	0	19	1	0	0	0	0	0	0	25
9/4	7.0	0	0	1	3	0	4	0	0	0	12	0	0	0	0	0	0	0	20
9/5	6.0	0	0	1	0	0	2	0	0	0	9	3	0	0	0	0	0	1	16
9/6	7.0	0	0	1	1	1	3	1	0	0	12	2	0	0	0	1	0	1	23
9/7	6.0	0	0	2	1	0	0	0	0	0	11	1	0	0	0	0	0	0	15
9/8	6.0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	4
9/9	6.0	0	0	0	0	1	3	0	0	0	6	0	0	0	1	0	0	0	11
9/10	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9/11	7.0	0	0	2	4	0	0	1	0	0	9	1	0	0	2	0	0	0	19
9/12	8.0	0	0	2	0	0	4	0	0	0	209	3	0	0	5	0	0	0	223
9/13	7.0	0	0	0	0	0	0	0	0	0	42	2	0	0	0	0	0	0	44
9/14	6.0	0	0	1	1	0	1	0	0	0	10	2	0	0	0	1	0	0	16
9/15	7.5	0	0	2	7	1	11	0	0	0	259	3	0	0	6	1	0	2	292
9/16	7.0	0	0	2	3	0	1	1	0	0	78	2	0	0	0	0	0	0	87
9/17	6.5	0	0	5	3	0	1	0	0	0	40	1	0	0	4	1	0	0	55
9/18	4.0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
9/19	6.0	0	0	0	0	0	4	0	0	0	15	0	0	0	2	0	0	0	21
9/20	7.0	0	0	2	3	1	18	3	1	0	1089	7	0	0	5	3	0	0	1132
9/21	6.0	0	0	2	0	0	14	0	0	0	88	3	0	0	1	2	1	0	111
9/22	7.5	0	0	0	2	1	7	1	0	0	27	1	0	0	1	1	1	1	43
9/23	6.0	0	0	5	0	0	5	0	0	0	13	5	0	0	2	0	2	0	32
9/24	6.0	0	0	4	7	0	1	0	0	1	12	22	0	0	5	4	1	0	57
9/25	5.5	0	0	2	8	0	8	4	0	1	1	13	0	0	1	0	0	0	38
9/26	5.3	0	15	0	5	0	1	0	0	0	0	0	0	0	1	1	1	2	26
9/27	7.0	0	0	0	0	0	5	0	0	0	1	3	0	0	1	1	0	0	11
9/28	6.0	0	8	3	1	0	8	1	0	0	0	8	0	0	0	0	1	0	30
9/29	6.0	0	1	3	3	1	9	1	0	0	1	9	0	0	4	0	0	0	32
9/30	2.0	0	2	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	6
10/1	6.0	0	7	0	2	1	6	5	0	0	0	12	0	0	0	3	1	0	37
10/2	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/3	6.0	0	9	1	0	0	2	1	0	1	1	3	0	0	1	0	0	0	19
10/4	8.5	0	38	0	3	1	14	5	0	1	1	6	0	0	0	0	0	1	70
10/5	6.0	0	27	4	1	4	7	3	0	1	0	14	0	0	1	1	0	0	63
10/6	7.0	0	23	0	0	1	20	0	0	0	0	13	0	0	0	0	0	1	58
10/7	6.0	0	20	0	0	0	11	3	0	0	0	2	0	0	1	0	1	0	38
10/8	5.0	0	27	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	30
10/9	7.0	0	25	0	3	0	12	2	1	0	0	70	0	0	2	2	0	1	118
10/10	7.5	0	31	0	5	1	5	2	0	3	0	64	0	0	0	1	0	3	115
10/11	7.0	0	10	0	0	1	10	0	0	1	0	18	0	0	0	2	0	0	42
10/12	6.0	0	17	0	4	1	0	0	0	0	0	6	0	0	1	0	0	0	29
10/13	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/14	6.0	0	77	0	4	0	12	2	0	2	0	45	0	1	2	2	2	0	149
10/15	6.0	0	21	0	0	0	9	1	0	0	0	7	0	0	0	0	0	0	38
10/16	5.3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10/17	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/18	6.0	0	17	0	0	1	2	1	0	0	0	4	0	0	0	0	0	0	25
10/19	6.0	0	31	0	5	0	6	0	0	0	0	28	0	0	0	0	0	0	70
Date	HRS	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	RT	RL	GE	AK	ML	PG	UR	TOT

Date	HRS	BV	TV	OS	BE	NH	SS	CH	NG	RS	BW	RT	RL	GE	AK	ML	PG	UR	TOT
BV=Black Vulture; TV=Turkey Vulture; OS=Osprey; BE=Bald Eagle; NH=Northern Harrier; SS=Sharp-shinned Hawk; CH=Cooper's Hawk; NG=Northern Goshawk; RS=Red-shouldered Hawk; BW=Broad-winged Hawk; RT=Red-tailed Hawk; RL=Rough-legged Hawk; GE=Golden Eagle; AK=American Kestrel; ML=Merlin; PG=Peregrine Falcon; UR=Unidentified Raptor. Maxima are boldfaced .																			