

**NEW YORK STATE OFFICE OF  
RENEWABLE ENERGY SITING  
AND ELECTRIC TRANSMISSION**

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**In re the Matter of**

**Application of FORT EDWARD SOLR, LLC for a  
Major Renewable Energy Facility Siting Permit  
Pursuant to Article VIII of the New York State Public  
Service Law to Develop, Design, Construct, Operate,  
Maintain, and Decommission a 100-Megawatt (MW)  
Solar Energy Facility Located in the Town of  
FORT EDWARD, WASHINGTON COUNTY**

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**Matter No. 23-03023**

**GRASSLAND BIRD TRUST**

**PETITION FOR FULL PARTY STATUS AND STATEMENT OF ISSUES FOR  
ADJUDICATION**

# **EXHIBIT A**

**-Expert Report: Avian Impact and Mitigation Assessment**



# **Fort Edward Solar – Avian Impact and Mitigation Assessment**

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## **EXECUTIVE SUMMARY**

The proposed Fort Edward Solar Project's (the "**Project**") Net Conservation Benefit Plan ("**NCBP**") submitted by Fort Edward Solar LLC (the "**Applicant**") fails to adequately mitigate the significant, irreversible damage that would result from the Project's implementation. The Plan disregards the exceptional ecological importance of the 1,828 acre Project facility site, which lies within the New York State Department of Environmental Conservation ("**NYSDEC**") Washington County Grassland Bird Conservation Center ("**GBCC**"). Additionally, the mitigation formula is grossly inadequate based on an unsupported assumption regarding habitat succession. The proposed mitigation measures are insufficient to achieve a genuine "net conservation benefit" as required by New York State law.

### **The Project Site's Unique and Protected Ecological Status**

Grassland bird species need large, open landscapes to support their foraging, breeding and nesting behaviors. These birds do not rely on specific parcels. They require unbroken, open landscapes to survive.

The NYSDEC established the GBCCs to strategically protect and manage the last remaining strongholds of grassland bird habitat in New York State. The GBCCs serve as a refuge or ecological "lifeboat" for both wintering and breeding populations of grassland bird species. Within the Washington County GBCC, the Washington County Grassland Wildlife Management Area ("**WMA**") serves as the anchor field within that refuge.

The proposed Project site nearly completely surrounds the WMA and is situated within a recognized ecological area of critical importance for grassland birds as confirmed by several authoritative sources:

- National Audubon Society: The Project falls within the 13,000-acre Fort Edward Grassland Important Bird Area ("**IBA**").
- New York Natural Heritage Program ("**NYNHP**"): The Project site is a recognized Raptor Winter Concentration Area.
- NYSDEC Environmental Resource Mapper: The Project Site is explicitly identified as an area of "Rare Plants or Animals."

Approving the NCBP proposed by the Fort Edward Solar Project would directly disregard New York State's long-standing environmental policy to protect and enhance grassland habitats, a policy that has been in place since 2008. The Project substantially degrades the value of this unique environment for grassland birds without appropriate mitigation, in direct conflict with established New York State priorities.

### **Flawed Mitigation Formula and Invalid Succession Assumption**

The mitigation formula used by the New York State Office of Renewable Energy Siting (“**ORES**”) to determine the required mitigation acreage is predicated on an invalid assumption that renders the NCBP inadequate as applied to this case. This is so for the simple reason that the grasslands in question have been grasslands for *at least* the past 28 years since the National Audubon Society designated this 13,000 acre area an Important Bird Area.

The formula erroneously assumes that the grasslands within the Project site (the “**Facility Site**”), which are currently primarily agricultural land, will naturally undergo ecological succession and transition to a scrub-shrub or forest habitat within five years. ORES has no basis for its assumption that these grasslands will not be mowed or grazed. It is just as valid to assume that, absent the Project, mowing or grazing would continue in a manner suitable for grassland birds.

In short, ORES and the Applicant have provided no basis for their assumption that the project area would succeed to woody vegetation within five years. As a result, applying the “five year succession assumption” included in the ORES regulations completely ignores the reality on the ground.

To remedy this critical flaw, the five-year succession assumption must be removed from the mitigation formula when evaluating the Fort Edward Solar Project, especially in light of the area’s unique status and designation as an area of critical importance to grassland birds.

## **Conclusion**

The proposed Project represents a serious and direct threat to an ecologically significant area. To protect New York State's declining grassland bird populations and uphold State environmental policy, a new NCBP must be developed that increases the amount of mitigation beyond the required legal minimum.

A mitigation plan that barely protects 40% of the recorded habitat for Threatened and Endangered species is both illogical and ecologically harmful—especially when the habitat being removed surrounds the anchor field of the GBCC, one of the State's grassland bird strongholds.

While we applaud and support New York’s commitment to renewable energy, it must not come at the cost of irreplaceable habitat. The solution is simple and straightforward: ***permanently conserve at least as much grassland habitat as is being lost.*** The approach represents only a modest cost increase for the Applicant and delivers substantial ecological value for grassland birds.

If New York State is serious about preserving one of its most critical grassland bird strongholds, mitigation must, at a bare minimum, be proportional and permanent.

A new, valid mitigation strategy must be developed, with the participation of the parties submitting this assessment, to increase the mitigation acreage in order to effectively account for the unique nature of this critical habitat.

## **I. INTRODUCTION**

This assessment is submitted by the Grassland Bird Trust, Inc. ("**GBT**"), a 501(c)(3) not-for-profit organization founded in 2010. GBT is the only land trust in New York State whose sole mission is to protect and conserve critical and vanishing grassland habitat for endangered, threatened, and rapidly declining grassland birds. (To the best of our knowledge, the only other not-for-profit organization in New York State whose sole mission is to protect grassland habitat for grassland-dependent migratory birds and wintering raptors is the Shawangunk Grassland National Wildlife Refuge in Ulster County, New York.)

According to the Applicant's NCBP, it is apparent that the Applicant plans to partner with GBT to manage the mitigation lands. While GBT is prepared to take on this responsibility, a NCBP cannot be considered adequate without substantially more input from GBT. Accordingly, GBT does not support a NCBP that includes insufficient mitigation acreage based on a flawed formula.

Appropriately sited commercial-scale renewable energy projects are one of the most important elements of a multifaceted approach to mitigating the effects of climate change. However, solar energy facility construction and operation requires a relatively large amount of land, and can have substantial negative impacts on birds and other wildlife (Lovich and Ennen 2011, Walston et al. 2016, Smallwood 2022). These impacts can, and must, be minimized to ensure that climate change mitigation strategies do not prove detrimental to imperiled wildlife as the State's renewable energy procurement policies are implemented.

Birds are in steep decline. A study published in the prestigious journal *Science* found that North American bird populations decreased by 2.9 billion (almost one-third) between 1970 and 2018 (Rosenberg et al. 2019). Among various bird groups examined, grassland birds fared the worst: their population has declined by over 50% in North America since 1970. For this reason, grassland birds are a conservation priority in New York (Morgan and Burger 2008, NYSDEC undated).

With bird populations already in steep decline, solar energy facility construction in one of the largest few remaining grasslands in New York State will detrimentally result in even more grassland bird habitat loss and degradation. By far, the most important element of minimizing avian impacts due to wind, solar and transmission project planning is appropriate facility siting in locations that pose low risk to birds.

In this context, the purpose of this report is to assess: (1) whether the siting of Fort Edward Solar poses a uniquely large threat to grassland birds given its location in a GBBC where such development should be discouraged; and (2) the complete inadequacy of the default

mitigation provisions in the ORES regulations and proposed NCBP, to provide a net conservation benefit for these impacts, especially in light of the unique circumstances present at this site.

This assessment focuses on Northern Harrier and Short-eared Owl which are the focus of regulatory agency interest. Northern Harriers are discussed in greater detail due to the apparent overlap in these species' presence on the proposed Project site and presence in multiple seasons, including the more sensitive breeding season. The report was prepared by the following members of the Grassland Bird Trust:

1. Terry Griffin, Chair GBT
2. Katherine Roome, GBT Board Member
3. Samantha Carouso Peck Ph.D., Ornithologist

This report was prepared with the assistance of expert consultant Joel Merriman of Avian Consulting Services. The Grassland Bird Trust retained Avian Consulting Services using its award of Local Agency Account Funding in this proceeding.

In the event ORES grants party status to the GBT and provides the opportunity to submit direct testimony, GBT will author panel testimony from the persons named above and Mr. Merriman.

## **II. Value of Proposed Project Site for Grassland Birds**

The proposed Project site is located in an area recognized at multiple levels for its importance to grassland birds, as acknowledged in the Wildlife Site Characterization Report ("**WSCR**") for the project (WSP USA 2021b). In particular, the Project is proposed to be built in one of only eight New York State GBCCs. The GBCCs are the focus of two successive long-term grassland bird strategies that New York State has had in place for nearly twenty years. (See Section II.A.1 below.) Solar development in this area that is not appropriately sited, designed, and mitigated would be detrimental to the State's strategy and the grassland birds the strategy was developed to protect.

### **A. Value of Project Area and Vicinity to Grassland Birds**

#### **1. NYSDEC: Washington County Grassland Bird Conservation Center**

NYSDEC and partners first developed a statewide strategy for conservation of grassland birds and their habitat in "A Plan for Conserving Grassland Birds in New York: Final Report to the New York State Department of Environmental Conservation" under contract #C005137" (Morgan and Burger 2008) ("**2008 NYS Grassland Bird Strategy**"). This was succeeded by the "NYSDEC Strategy for Grassland Bird Habitat Management and Conservation 2022-2027" (NYSDEC undated) ("**NYSDEC 2022-2027 Grassland Bird Strategy**") (collectively, the "**NYS Grassland Bird Strategy**").

The NYS Grassland Bird Strategy was developed “with the specific goal of enhancing reproduction of at-risk grassland breeding birds and a secondary goal of providing suitable overwintering habitat for grassland-dependent species.”

Grassland bird species specifically targeted for long-term conservation in the NYS Grassland Bird Strategy include Bobolink, Eastern Meadowlark, Grasshopper Sparrow, Henslow’s Sparrow, Horned Lark, Northern Harrier, Savannah Sparrow, Sedge Wren, Short-eared Owl, Vesper Sparrow, and Upland Sandpiper. Presence of these species on and in the vicinity of the proposed Fort Edward Solar facility site is discussed in Section II.B below.

The eight GBCCs (totaling approximately 660,000 acres in the State) were identified as State priorities in the NYS Grassland Bird Strategy.

The proposed Project site is located entirely within the 102,000-acre Washington County GBCC.

## 2. NYSDEC: Washington County Grasslands Wildlife Management Area

The NYS Grassland Bird Strategy indicates that a continuous grassland “anchor field” of 250 acres is to be protected within a State Wildlife Management Area (“**WMA**”) in each GBCC, with an intent to protect at least 500 acres in each WMA.

The 478-acre Washington County Grasslands WMA serves as the anchor field for the Washington County Grasslands GBCC. The Washington County Grasslands WMA is a New York State-owned property managed by the NYSDEC. A website for the WMA indicates that “[t]he primary objective [of the WMA] is to provide nesting, feeding, and wintering habitat to a variety of bird species, including at-risk species” (NYSDEC 2025c). The website also indicates that NYSDEC is continuing to purchase properties to expand the protected area, in accordance with the objectives of the NYS Grassland Bird Strategy.

Notably, the proposed Fort Edward Solar project almost completely surrounds all four sides of the WMA, thus limiting areas for expansion in accordance with the NYS Grassland Bird Strategy. (See map on page 21.)

## 3. Audubon: Fort Edward Grasslands Important Bird Area

Near the center of, and entirely within the Washington County GBCC, is the 13,000-acre Fort Edward Grasslands Important Bird Area (“**IBA**”). This IBA was recognized by the National Audubon Society (2025) in 1997. The National Audubon Society characterizes the area as “an exceptional grassland bird breeding and wintering area.” The entire proposed Project site falls within the Fort Edward Grasslands IBA.

## 4. NYSDEC: Designated Rare Animals Site

The NYSDEC Environmental Resource Mapper identifies the site of the proposed Project as a significant Raptor Winter Concentration Area within an area of “Rare Plants or Animals” (NYSDEC 2025a).

## 5. New York Natural Heritage Program

The proposed Fort Edward Solar Project also falls almost entirely within the New York Natural Heritage Program Raptor Winter Concentration Area, a critical wintering ground for various raptor species, including the NYS endangered Short-eared Owl and threatened Northern Harrier.

## **B. Grassland Bird Species on Proposed Project Site and Vicinity**

The ORES regulations take an artificially limited approach to species of conservation need that are considered in project documentation. The list of species identified in the WSCR for the proposed Project (WSP USA 2021b) identifies 18 bird species listed as Threatened or Endangered in New York State, or identified as New York State Species of Special Concern, which do or may occur on the property. Among these, the grassland bird species in Table 1 were detected during field surveys on the initially proposed Project site (WSP USA 2021a, 2022).

<b>Species</b>	<b>NY State Status</b>	<b>eBird Trend</b>	<b>Trend Timeline</b>
Short-eared Owl	State Endangered	-34.6%	2011-2021
Northern Harrier	State Threatened	-29.9%	2012-2022
Sedge Wren	State Threatened	-2.9%	2012-2022
Upland Sandpiper	State Threatened	-67.2%	2012-2022
Grasshopper Sparrow	Species of Special Concern	-27.7%	2012-2022

Table 1. Grassland bird species detected on the proposed Fort Edward Solar project site, NY State listing status, and median population trend in NY State (Fink et al. 2024).

For some of these grassland bird species, eBird population trend data (Fink et al. 2024) indicate that declines in New York State are greater than for the U.S. as a whole. For example, Short-eared Owl populations declined by a median of 3% in the U.S. from 2011-2021, but sustained a much steeper decline of 34.6% in New York State. From 2012-2022, Upland Sandpiper declined by 11.2% in the U.S. but 67.2% in New York State, and Grasshopper Sparrow declined by 15.2% in the U.S. versus 27.7% in New York State. Short-eared Owl and Grasshopper Sparrow are also identified as “common bird [species] in steep decline” by Partners in Flight (Rosenberg et al. 2016, Panjabi et al. 2024, Partners in Flight 2024).

The list of species identified in the WSCR did not include those identified as Species of Greatest Conservation Need (“**SGCN**”) or High-Priority SGCN by the State (NYSDEC 2015).



These are species for which “conservation action is needed in the next ten years.” Such species are known to use the proposed Fort Edward Solar Project site and vicinity, including American Kestrel, Bobolink, and Eastern Meadowlark. eBird population trend data (Fink et al. 2024) indicate that Bobolink declined by a median 19.9% in the U.S. from 2012-2022 versus 27.4% in New York State. Bobolink is identified as a Watch List species by Partners in Flight, and Eastern Meadowlark is identified as “common bird [species] in steep decline” by Partners in Flight (Rosenberg et al. 2016, Panjabi et al. 2024, Partners in Flight 2024).

### **III. Impacts of Proposed Project On Grassland Birds**

Solar facility development, like any other land use that similarly affects the landscape, can cause a suite of impacts to wildlife and their habitat. (See discussion in following sections.) However, only habitat loss is addressed in ORES regulations. Other impacts are addressed to varying degrees in project documentation (collision mortality is notably absent), though some questionable assertions and conclusions are rendered. One such assertion appears in the terrestrial ecology report (Boralex undated\_b), which makes the dubious claim that impacts were avoided or minimized because facility components (e.g., solar arrays) were preferentially placed in agricultural fields. On page 11-11:

*Facility components have been sited to minimize impacts to wildlife habitat by siting solar arrays in agricultural fields used as pasture or to produce hay to the maximum extent practicable. This will minimize the impacts to higher-quality wildlife habitat, including forests, shrublands, and some wetlands.*

To suggest that pasture or hayfields are less valuable than forests and shrublands to Endangered and Threatened bird species is puzzling. If managed fields and pasture are impliedly “lower-quality” habitat, that would also imply that a NCBP which conserves managed pastures and hayfields purportedly to provide a conservation benefit, is not sufficient to mitigate the loss of habitat.

Moreover, the NCBP (WSP USA 2025) indicates that the orchard grass, clover, and canary grass-dominated hayfields in the proposed mitigation property are “good” and “beneficial” for grassland birds (pgs. 6-2 and 8-1), further contributing to confusing treatment of this key regulatory issue.

As we found a number of instances where we disagreed with the Project documentation’s conclusions about the likelihood and degree of severity of the proposed Project’s likely impacts to grassland birds, we provide our own analysis below.

#### **A. Habitat Loss**

Where solar installations occur in grasslands, open habitat with a relatively uniform structure is replaced by a mosaic of herbaceous vegetation and anthropogenic structures. The proposed Project would eliminate breeding habitat for New York State-listed Northern

Harrier, among other species, and wintering habitat for Northern Harrier and Short-eared Owl, among other species. Mitigating this loss is the purpose of the NCBP (NBCP; WSP USA 2025).

Solar array installation and operation largely eliminates habitat for New York State priority grassland birds. For example, DeVault et al. (2014) surveyed birds in five “study areas”: Two in Arizona, two in Colorado (east of the continental divide), and one in Ohio. Within each study area, surveys occurred at paired airport grasslands and solar facilities (termed “sites”). Northern Harrier and Vesper Sparrow were detected at one grassland site in both Arizona and Colorado, but neither were observed at the paired solar facility sites. Grasshopper Sparrow was only recorded at the Ohio study area, and was almost four times more abundant on the airport grassland than at the associated solar facility site. American Kestrel and Horned Lark were both found at more airport grassland sites than paired solar facilities. Horned Larks were also more abundant on airport grassland sites than paired solar facilities at four of five study areas. Eastern Meadowlark was found only at the Ohio study area, and present in similar abundance at the grassland and solar sites.

Solar fields are recommended to be installed on grassland near airports specifically because studies have found that they significantly reduce use of the area by large birds such as raptors, which pose a risk to aircraft.

Habitat loss due to facility construction would occur in a substantial portion of the southern extent of the Fort Edward Grassland IBA. Significantly, this habitat loss would occur on essentially all four sides of the Washington County Grasslands WMA. This would substantially hinder the State’s intent to expand the protected area (see Section II.A.1), and likely contribute to harmful indirect ecological impacts on the existing wildlife and habitat. (See following Section.)

## **B. Alteration of Remaining Habitat**

In addition to direct habitat loss that would result from the proposed Fort Edward Solar project, there are other ecologically important impacts likely to occur and result in a detriment to grassland birds. These additional impacts could compound the loss of habitat, and potentially result in unanticipated changes to grassland birds’ abundance and distribution, including the potential for abandonment of portions of the remaining habitat.

### **1. Edge Effects**

Removal of vegetation in grassland habitats, e.g., for development and operation of solar facilities, can impact grassland birds and other wildlife in profound ways beyond the boundaries of project infrastructure (i.e., edge effects).

Fletcher (2005) studied the impacts of edge on Bobolink distribution in Iowa where agricultural lands were adjacent to grasslands. He found that Bobolinks were less abundant within 88 meters of the edge of agriculture in grasslands with one edge adjacent to

agriculture, and 98-117 meters of the edge where agriculture bordered two sides. Renfrew (2005) found that grassland bird nest density increased with distance from the edge of pasture in Wisconsin, and within 50 meters specifically for Grasshopper Sparrow, though nest success did not vary between land uses. Perkins et al. (2013) found that Bobolinks and Savannah Sparrows nested significantly more than expected beyond 50 meters from edge, and nest survival decreased within 50 meters for Savannah Sparrow but not Bobolink.

Edge effects can have detrimental effects on grassland birds, including increased access for potential nest predators and higher rates of Brown-headed Cowbird nest parasitism, which can result in reduced survival and reproductive success. Different edge effects can permeate a given patch of habitat to varying distances. Edge effects are generally expected to affect a greater proportion of a given area in smaller versus larger patches of habitat and in thin or otherwise irregularly-shaped patches versus more regularly-shaped patches (i.e., more round or square in shape) due to greater edge-to-area ratios.

The proposed Project would break larger areas of grassland into smaller patches, resulting in the potential for edge effects anywhere that otherwise contiguous habitat is disrupted. The development would also result in a landscape where relatively large and contiguous patches of grassland bird habitat would become less regular in shape, and thus likely to be more substantially impacted by edge effects.

## 2. Reduced Habitat Patch Size

Reduced habitat patch size can also be problematic for a suite of wildlife species, including many grassland birds. This is particularly true for species which require relatively large areas of habitat (i.e., are area sensitive) and/or the conditions present in the interior portion of a given patch of habitat that is unaffected by edge effects. The former includes many grassland bird species. For example, a preponderance of evidence indicates that Northern Harriers are area sensitive (Ribic et al. 2009, Shaffer et al. 2019). These birds require large home ranges during breeding. The median home range size across multiple studies is roughly 640 acres (Smith et al. 2020).

By fragmenting and reducing the overall size of the Washington County GBCC and, in particular, the Fort Edward Grasslands IBA, the proposed Fort Edward Solar project has the potential to extirpate more than one at risk grassland bird species in its vicinity.

## 3. Habitat Connectivity

Connectivity of patches of suitable habitat is important for many wildlife species. Features such as roads and areas of non-habitat can present a barrier to movement and/or use of another area of apparently suitable habitat for some species. This can reduce the area of habitat that may be used by a given species or individual, despite what could be interpreted as a larger area of available habitat. These barriers and effects are relatively clear for some species, but are less clear and thus difficult to predict for others.

The proposed Project could potentially reduce habitat connectivity (and thus grassland bird movement) in the southern portion of the Washington County GBCC and, specifically, in areas surrounding the IBA. The location of some of the proposed solar arrays, in conjunction with forested areas (i.e., non-habitat), could reduce or otherwise alter use of areas of otherwise suitable habitat by Northern Harriers and other species.

#### 4. Other Potential Detrimental Impacts

The preceding sections discuss ecological impacts that, while difficult to predict with precision in any given instance, are at least substantially studied. A host of other ecological impacts may occur as a result of solar facility installation, though many of these have yet to be studied in a way that provides a reasonable understanding. (See review in Lovich and Ennen 2011.) For example, Barron-Gafford et al. (2016) found that ambient temperatures were 3-4 degrees Celsius higher in a solar array than an undeveloped desert site at night. The difference occurred throughout the year, and was greater than the difference between temperatures in the desert compared to a parking lot. The potential for this type of effect has not been studied in the eastern U.S. as far as we are aware, nor has the effect of that temperature difference been studied with regard to potential wildlife impacts.

#### **C. Collisions with Solar Panels and Other Infrastructure**

Despite the large and rapidly growing number of solar energy facilities across the country, there is little published science regarding avian collision mortality at facilities, and what does exist is focused on the desert southwest (Walston et al. 2016, Kosciuch et al. 2020, Smallwood 2022). The cause of bird collisions with photovoltaic solar panels and species' relative vulnerability is poorly understood, though it has been hypothesized that the polarized nature of the panels may serve as an attractant for some species (Walston et al. 2016, Smallwood 2022). Bird mortality also occurs due to collisions with transmission lines and fencing, the former of which can be particularly substantial (Smallwood 2022), as well as other above-ground infrastructure.

It is likely that birds will be killed in collisions with solar panels within the proposed Fort Edward Solar project, though this is not considered in the ORES regulations. Collision fatalities are potentially significant: Smallwood (2022) estimated 11.6 bird fatalities/MW/year across 14 facilities in the southern California desert. Collision fatalities at the proposed Project could be problematic if New York State-listed bird species, which are known to be found on and in the vicinity of the Project site, are killed. The lack of published data examining the impacts of solar facility construction and operation in New York State and the eastern U.S. more broadly highlights the importance of robust post-construction monitoring (addressed further in Section IV.A below).

Collision fatality monitoring would ideally be conducted using trained carcass detection dogs, which are significantly more effective than human searchers (Smallwood et al. 2020). This is particularly true for detection of smaller birds, and could potentially also apply to

cryptic species; in either case, this could result in under-counting grassland birds if trained detection dogs are not employed.

#### **D. Displacement**

Displacement occurs when an area of otherwise suitable habitat becomes unusable for a given species due to a change in the landscape. Displacement effects are an important, but often ignored or minimally considered, effect of development. We are unaware of any published science examining the potential for avian displacement effects due to solar facility installation and operation. Instead, we provide examples below of avian displacement at wind energy facilities to illustrate the potential magnitude of impacts.

A study of raptors at a wind facility in Wisconsin found that Northern Harriers were present at 83% and 50% lower abundance after facility construction compared to baseline (Garvin et al. 2011). A follow-up study in years six and seven post-construction found that three of five species / taxa in the study were present in pre-construction numbers, whereas displacement of Northern Harriers continued, despite this species exhibiting a substantially lower collision risk than the other species (Dohm et al. 2019).

Pearse-Higgins et al. (2009) studied breeding bird populations at 12 wind facilities in the U.K., and found displacement effects [extending 250 meters](#) from wind turbines for Hen Harriers (once thought to be the same species as the Northern Harrier). At three wind facilities in the Dakotas, Shaffer and Buhl (2015) found that seven of nine breeding grassland bird species exhibited displacement at a minimum of one facility and year. Displacement was detected for Upland Sandpiper within [100 meters](#) of turbines at one facility in the first year after construction, as well as overall displacement and effect beyond [300 meters of turbines](#) at a second facility.

There are differences between wind and solar energy facilities and how they might affect birds. However, these examples illustrate the importance of this phenomenon. There is a clear need for additional science examining the potential for displacement effects on solar facilities, further highlighting the need for robust monitoring.

The site of the proposed Fort Edward Solar Project nearly surrounds an important WMA, is an integral part of the GBCC, and constitutes one of the most important and sensitive habitats for grassland birds in New York State. This is not the appropriate place to conduct experiments assessing the risk of solar field displacement, at least not without special consideration given to appropriate, additional mitigation.

#### **E. Cumulative Impacts**

It is important to acknowledge that because of the impacts discussed above, it is likely that more birds would be negatively impacted by the proposed Project than would be predicted by dividing the area of clearing for solar arrays by the home range size of a given species. A given area of development may support one or more full home range(s) of a given species,

but any given location could also fall at the borders of multiple home ranges. The impact to birds in this scenario is difficult to predict, and could potentially result in displacement of more birds than would be predicted by the area developed. This is an important concept for the proposed Project because of the somewhat diffuse distribution of solar arrays spread over a large area relative to the total area of development.

#### **IV. No Proof that Proposed Mitigation Provides a Net Conservation Benefit**

The Applicant's initial proposed mitigation identified two parcels adjoining the proposed Fort Edward Solar Facility Site (WSP USA Inc. 2025) in the Fort Edward Grassland IBA (the "**Proposed Mitigation Land**"). Although GBT was initially interested in taking title to the Proposed Mitigation Land and managing it for grassland birds under a separate contract with the Applicant, it has come to GBT's attention that the Agricultural Stewardship Association ("**ASA**"), the current owner of two agricultural conservation easements already attached to the land, opposes any use of the Proposed Mitigation Land as part of an NCBP for this project. GBT is willing to work with the Applicant to identify a replacement for the Proposed Mitigation Land, but the amount of land conserved must be greater than the minimum required by ORES regulations. To provide any benefit, the Applicant would have to conserve substantially more land than that included in the Applicant's current NCBP.

##### **A. Proposed Net Conservation Benefit Plan Contains Misleading Statements and Does Not Comply with ASA Easements or Regulations**

Significantly, Applicant has provided no evidence that the draft NCBP is compliant with either the ASA easement nor with the NYS Agricultural and Markets regulations under which funding for this easement was provided. In fact, on September 29, 2025, the ASA submitted a public comment in the Fort Edward Solar Proceeding indicating that, "ASA holds two agricultural conservation easements on this property and has determined that Fort Edward Solar's proposed use of the property would violate the terms of these conservation easements, and is impermissible . . . Therefore, ASA has withheld its consent to this proposed use of the [Proposed Mitigation Land]." This is a significant change in circumstances that indicates the Applicant's primary conservation plan is no longer feasible.

GBT also takes issue with the Applicant's incorrect statement on page 6-1 that "a local grassland bird advocacy group" -presumably GBT -is collaborating with the Applicant to establish a conservation easement in Washington County. Although GBT is interested in working with the Applicant, no agreement has been struck and GBT is not obligated in any way to be a part of the Applicant's NCBP. Any potential role for GBT would be conditioned on the transfer of ownership of the mitigation land to GBT. Further, any management role for GBT must be consistent with best practices for grassland birds. Management would be conducted under a management contract, not just a conservation easement. The management contract is necessary to offset the cost of the GBT's management of the conserved land, which would be significant over 30 years.

The statement in the NCBP on page 8-2 that Cornell University will provide technical assistance with post-construction monitoring assumes that there will be funding from New York State for this purpose. This is far from certain. The Applicant should indicate whether it is prepared to pay for post-construction monitoring in the absence of such funding.

### **B. There is Insufficient Information to Evaluate Likelihood of Success**

While the Applicant's NCBP has been rendered substantially moot by ASA's determination that use of the Proposed Mitigation Land would violate the terms of ASA's conservation easements, it is worth noting other deficiencies in the Applicant's NCBP that should be remedied in any replacement NCBP.

Effective mitigation ensures that the value of what is being provided is equal to or exceeds the value of what is being taken. This is acknowledged in the proposed NCBP, which states that *a conservation easement(s)... of suitable grassland habitat that is equal or greater quality is necessary to achieve a net conservation benefit to the Northern Harrier and Short-eared Owl*. However, we are unaware of any formal avian or vegetation data gathered at the Proposed Mitigation Land to allow an effective evaluation of its current or potential value for grassland birds. Habitat that is known to be occupied by target grassland species would be lost if the Project is constructed, but it is impossible to determine if this loss would be effectively compensated. Further, there are no performance standards provided to gauge success, nor are contingencies outlined if the plan fails or encounters important setbacks. This is substantially insufficient information on which to render a decision about the likelihood of success of the proposed mitigation.

The draft NCBP states on page 6-4 that "Mowing will occur once per season as early as possible following the end of the breeding season (August 15)". (Presumably "once per season means once per year.") Applicant has provided no evidence that mowing on or around August 15 is the optimal time to mow, nor that mowing all of the Proposed Mitigation Land once per year is a best practice for grassland birds.

The draft NCBP indicates that current vegetation on the Proposed Mitigation Land is beneficial for grassland bird species, though no citation is provided to support this statement, nor is there discussion of actions that can and will be taken to optimize grassland bird habitat, and particularly breeding habitat Northern Harriers. This contributes to a paucity of information with which to evaluate the potential effectiveness of mitigation.

### **C. Proposed Management Could Be Detrimental to Harrier Breeding**

The NCBP (WSP USA 2025) on page 6-2 indicates that vegetation on the entirety of the Proposed Mitigation Land would be harvested once per year for hay and/or straw.

Studies have shown that annual vegetation removal is often detrimental to Northern Harrier breeding (see review in Shaffer et al. 2019). Herkert et al. (1999) found that Northern

Harriers in southeastern Illinois preferentially nested in undisturbed fields (i.e., those that had not been mowed, hayed, burned, or grazed in the prior 12 months). Sixty-two percent of nests were in fields that were undisturbed one to two years; all but one nest were in fields undisturbed less than three years. As such, the intent to harvest vegetation annually in the Proposed Mitigation Land without considering when and how this harvesting takes place is likely to substantially hamper breeding by Northern Harriers.

In addition to the yearlong detriment to Northern Harrier breeding that proposed annual mowing of the entire Proposed Mitigation Land may cause, mowing would reduce habitat value for post-breeding harriers and their young prior to departure for fall migration. This would be exacerbated by the fact that some adjacent lands would have been converted to non-habitat due to placement of solar arrays.

#### **D. Habitat May Become Less Suitable for Harrier Breeding**

In order to avoid similar deficiencies in any replacement NCBP, we would note that as discussed in Section III.B, the ecological effect of habitat removal on remaining habitat is a fundamental consideration for assessment of wildlife habitat value and any associated impacts, though these are not addressed in ORES regulations. These effects could also have important impacts on use of any replacement proposed mitigation land by Northern Harrier and other species.

Solar array placement for the proposed Fort Edward Solar facility would reduce the area and broader connectivity of a relatively large, contiguous grassland area. This development would also alter the shape of remaining habitat, and introduce edge effects to new areas, including, potentially, near portions of any replacement proposed mitigation land. The proposed NCBP would have resulted in a substantial portion of the Proposed Mitigation Land being abutted by either solar arrays or forested areas, i.e., not suitable for use by grassland birds.

Collectively, these impacts would have reduced the value of the Proposed Mitigation Land and the southern portion of the-IBA and critically, the WMA, for breeding Northern Harriers and other grassland birds-

#### **E. Mitigation Fee Option is the Most Detrimental Option**

The Applicant alludes to the possibility of paying a mitigation fee if ORES does not approve the Applicant's NCBP.

This would be the most detrimental outcome for grassland birds in an area adjacent to a nearly 500 acre WMA that lies in the heart of an Important Bird Area within a Grassland Bird Conservation Center recognized by the New York State as one of the most valuable sites for grassland bird conservation in New York State.



Indeed, it is questionable whether there is land that is comparably beneficial to grassland birds outside of the IBA.

Further, if as is most likely, the funds are not deployed in the Washington County Grasslands IBA and the amount of mitigation is calculated under the current ORES regulations (see Section V below), the damage to the WMA, the IBA and GBCC will be irreparable and beyond providing a net conservation benefit in the foreseeable future.

Accordingly, the only way to achieve a net conservation benefit for grassland birds is for the Applicant to acquire in fee, and transfer to the Grassland Bird Trust, Inc. in fee, mitigation land that is in the Washington County GBCC, if not in the actual IBA. Critically, the amount of mitigation land must be more than is proposed by the Applicant. Specifically, the Applicant must permanently conserve at least as much grassland habitat as is being lost in order to provide a net conservation benefit.

## **V. DEFAULT PERMIT CONDITIONS ARE INSUFFICIENT TO MITIGATE IMPACTS TO GRASSLAND BIRDS IN THE WMA**

### **A. ASSESSMENT OF PROPOSED PROJECT SITE RELATIVE TO BEST PRACTICES**

#### **1. Site Selection**

As explained above, the proposed site for the Fort Edward Solar facility is in an area identified as being of high importance for grassland birds, which are a conservation priority in New York State. In particular, this is one of eight areas that have been identified by the State as priorities for long-term grassland bird conservation. The area is also designated an IBA by National Audubon Society, as well as identified as a winter raptor concentration area, and included in the NYSDEC Designated Rare Animals Site. The Fort Edward Solar project is proposed to nearly surround a State WMA that exists to protect grassland bird habitat. Eighteen bird species of conservation concern are actually or potentially present on the site, including eight State-listed Threatened or Endangered species.

The information in the preceding paragraph is easily obtained by a knowledgeable biologist via a desktop exercise (WSP USA 2021b), and provides abundant indication that this area would be a poor choice for solar facility development. It would have been a prudent decision on the Applicant's part to abandon consideration of this location following initial prospecting. Indeed, project documentation indicates that parcels were removed from the initially considered layout due to grassland bird impacts, e.g., "A primary reason for the Facility design modification was to reduce the project footprint to facilitate the reduction of wildlife habitat impacts" (Boralex undated\_a, pg. 12-1).

ORES regulations are lax with regard to siting renewable energy facilities and associated impacts to grassland birds and their habitat. Although considerable documentation of environmental conditions and impacts are required, there are no apparent related

restrictions on where development can occur, and it is unclear if there are circumstances under which a project proposal may be denied because impacts are anticipated to be unreasonably high. Remarkably, there is no consideration taken of siting solar projects in GBCCs notwithstanding New York State's longstanding commitment to protecting these areas.

## 2. Application of the Mitigation Hierarchy

The mitigation hierarchy is a widely used framework to guide development planning in a way that first avoids environmental impacts, then incorporates measures to minimize "unavoidable" impacts, then compensates for those impacts. It is a step-by-step framework. For solar energy project planning, the crucial avoidance step entails siting development in areas that have minimal impacts on wildlife, and avoiding areas where impacts would be unacceptably high. Planning for the proposed Fort Edward Solar facility neglected to avoid impacts by proceeding beyond initial site assessment in an area of known importance to grassland birds. (see Section II.A).

Project documentation indicates that removal of specific parcels from the original site plan occurred to reduce the Project's wildlife impacts. That was prudent and avoided impact to grassland birds in those locations. However, the relevant baseline when considering whether a net conservation benefit has been achieved is current conditions on the property, and not the Applicant's initial proposed project layout. The development as currently proposed will have a disproportionate detrimental effect on grassland birds within the Project area, in part because the development acreage is spread across a wide area in relation to total development acreage. (See Sections III.B, D, and E.)

Project documentation claims that a net conservation benefit (i.e., compensation) will be achieved through application of ORES regulations regarding protection and management of lands as compensation for impacts (e.g., Boralex undated at pgs. 12-2 and 12-9, WSP USA 2025 pgs. 6-2, 7-1, 7-2). Whereas it may be true that ORES regulations are satisfied, suggesting that there will be a net conservation benefit is erroneous, as discussed in Sections IV and V (i.e., there is a failure to effectively compensate per the mitigation hierarchy). Additional acreage is needed to effectively mitigate project impacts.

## **B. Mitigation Ratios: Background and Application**

There is little in the way of peer-reviewed science evaluating the effectiveness of conserving grassland to offset project-level impacts to birds (Lyons et al. 2023). However, wetland loss due to development has been regulated for decades, and a considerable amount of evaluation has been conducted regarding the success of associated mitigation. We present this as an analog to demonstrate the underlying science, purpose, and need for mitigation ratios exceeding 1:1.

Beginning in the early 2000's, a multitude of studies were conducted to evaluate the success of wetland mitigation projects in various jurisdictions (regionally-relevant examples

include Brown and Veneman 2001, Minkin and Ladd 2003, PG Environmental and Midwest Biodiversity Institute 2012, Cole and Shafer 2002). In many (if not most) cases, they found that success rates were low from an administrative compliance perspective (e.g., they were not implemented as required in approved plans), and even less successful in replacing the ecological function of the wetlands that were to be compensated. These studies highlight that mitigation success is far from guaranteed.

Pawliczak (2021) reviewed then-current wetland mitigation regulations for several U.S. states as part of a review and assessment of New York State's guidance for wetland compensatory mitigation. Ratios of wetland area impacted to area provided as compensation were provided for various wetland types and mitigation approaches. A hierarchy is often applied, which requires a lower replacement ratio for more ecologically and functionally meaningful actions, and a greater ratio for less meaningful actions. For example, the U.S. Army Corps of Engineers New England District 2016 guidance indicates that wetland restoration (i.e., re-establishment) should be provided at a 2:1 ratio, wetland creation at 3:1, 5:1 or 10:1 for rehabilitation, and 20:1 for preservation (i.e., protection of existing). While grasslands are not wetlands, this highlights that the mitigation ratios required for loss of grassland bird habitat in New York State are well below what could reasonably be considered best practices, particularly in GBCCs.

### **C. ORES Mitigation Ratios Do Not Provide a Net Conservation Benefit**

ORES regulations require permittee-responsible mitigation for renewable energy facilities that have more than a de minimus impact on New York State Threatened or Endangered grassland birds, such as the proposed Fort Edward Solar Project. The regulations require replacement of the habitat lost at 0.4:1 and 0.2:1 ratios for occupied breeding habitat and occupied wintering habitat, respectively. The rationale for these ratios is that grasslands are assumed to follow succession toward dominance by woody vegetation, which the regulations place at a 5-year time frame without active management. This is used in an attempt to justify a mitigation replacement ratio of less than 1:1, which does not constitute replacement, let alone a net benefit.

The grasslands at the site of the proposed Project have been mowed for hay on approximately an annual basis for many years. They are not mowed frequently as the soils in this area are clay and not conducive to more intensive agricultural production (Natural Resources Conservation Service, U.S. Department of Agriculture. 2025. Web soil survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/> Accessed 2 October 2025).

Although these parcels are not maintained in accordance with best practices for grassland bird habitat management, they still function as valuable grassland bird habitat. The findings from the WSP (Winter Raptor Surveys) and Breeding Bird Surveys confirm that these hayfields are suitable and known habitat for grassland bird species.

There is no more reason to assume that these grasslands will not continue to be mowed in a manner that is beneficial to grassland birds, any more than that there is a reason to expect that they will succeed to woody vegetation every five years.

The erroneous assumption in the NYS ORES mitigation ratio that all grasslands succumb to scrub-shrub or forest results is an "one size fits all" mitigation ratio that does not take into account any possibility other than that all agricultural activity will cease at the project site. This undervaluation of habitats that are likely to stay in agricultural production results in mitigation ratios that are insufficient and prevent the attainment of a net conservation benefit.

Accordingly, the five-year succession assumption should not be used when calculating appropriate mitigation when the "take" involves working agricultural hayfields.

Further, the mitigation ratios do not consider, or in any way attempt to compensate for the actual value of what is being lost. For example, mitigation requirements would be the same for 100 acres of Northern Harrier breeding habitat as for 100 acres of habitat that supports breeding by four State-listed grassland bird species.

Notably, the regulations also produce the oddly illogical result that the longer the project period, the fewer acres of mitigation are required. For example, assuming 100 acres of breeding bird "take", the mitigation would be 66.67 acres for a 20 year project, 40 acres for a 30 year project and 28.57 acres for a 40-year project. While to date, the assumption when calculating mitigation acreage has been that all projects are 30-year projects, there is nothing in the regulations to support this assumption.

Moreover, the mitigation calculation does not take into account other detrimental factors such as decreased habitat patch sizes, which may further reduce the suitability of mitigation lands for the species for which the mitigation is being provided, which could result in a net of fewer listed birds.

This inadequacy of proof is even more critical in the GBCCs where the State has for nearly twenty years promoted a policy of protecting grassland birds.

In short, neither the regulations nor the proposed Fort Edward Solar Project documentation make any attempt to provide a scientifically-supported argument that the mitigation ratios will definitively provide a net gain in abundance of target grassland birds.

It is noteworthy that based on 20 years experience in wildlife biology, predominantly within the context of development and land use planning, the preparers of this report have never encountered another instance where a mitigation ratio less than 1:1 was permitted.

#### **D. Cumulative Impacts on Grassland Birds Under ORES Regulations**

Grassland bird habitat necessarily occurs in open areas, and in many cases is relatively flat. These are also the economically advantageous conditions for solar facilities. The State has identified eight GBCCs as part of a long-term strategy to protect grassland birds. ORES grassland bird mitigation regulations place no limitations on facility siting with regard to grassland bird habitat. This has the inevitable effect of creating a major conflict between the NYS Grassland Bird Strategy and policies pushing for new solar energy facilities.

The conflict between the NYS Grassland Bird Strategy and renewable energy siting is increasing. In the Jefferson County GBCC, several solar facilities are already constructed (U.S. Geological Survey 2025), and three more have been approved since ORES was created (ORES 2025). Information obtained using ORES data, a Google search, and accessing websites tracking interconnection requests suggests that more than half a dozen additional solar projects may be in various stages of planning in the County (though it is not known if a given project is within the GBCC). At least one approved project appears to overlap a National Audubon Society designated IBA. A similar situation is occurring in the Iroquois GBCC. (No other GBCCs were examined).

We note that GBCC boundaries are not clearly geographically defined; thus, the above numbers are estimated using approximate boundaries.

The rapidly-expanding footprint of solar energy development within GBCCs is detrimental to the New York State Grassland Bird Strategy, particularly given that compensation requirements are insufficient. In addition to conflicting with State conservation goals, this will exacerbate the decline of grassland birds in the State. We note that the State Wildlife Action Plan and the NYS Grassland Bird Strategy are being updated currently and in 2027, respectively (NYDEC 2025b, NYDEC undated). In either case, poorly sited renewable energy projects are a key threat to grassland birds in New York State as stated in the draft State Wildlife Action Plan (distributed August 7, 2025):

*Over the last 10 years there has been a rapid increase in the number of solar project proposals and development in New York, occurring primarily in areas of grassland and early successional habitat. The conversion of thousands of acres of open green space to solar panels will result in habitat loss and fragmentation, threatening the persistence of grassland birds on the State's landscape.*

“

*Map showing relative locations of conservation areas and FES*

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