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Via Email and DMM Filing

March 9, 2026

Hon. Zeryai Hagos, Executive Director
Office of Renewable Energy Siting and
Electric Transmission
(Zeryai.Hagos@dps.ny.gov)

RE: Case 23-03023, ORES Application of Fort Edward Solar, LLC
Grassland Bird Trust Letter in Support of Hudsonia Report Submission

Dear Executive Director Hagos,

Wisniewski Law PLLC represents the prospective party Grassland Bird Trust, Inc. ("GBT") in the above referenced ORES proceeding. Pursuant to the email ruling issued by Judge McClymonds on March 4, 2026, GBT respectfully submits this letter in support of the motion filed by the American Land Rescue Fund, Inc. ("ALRF"), on March 3, 2026, seeking to submit new evidence previously unavailable at the time issues statements were due.

Through its motion, ALRF submitted a newly available technical report, offered by highly qualified experts, and demonstrating numerous substantive and significant issues related to ORES's and the Applicant's failure to adequately address potential adverse impacts to grassland birds and related habitats. The request for supplementation of issues statements and appeals is procedurally proper under 16 NYCRR §§1100-8.5(c), 1100-8.3(e)(4), and §1100-8.3(b)(2)(iv), because the report provides newly available scientific evidence relevant to issues raised in issues statements and appeals currently before the Executive Director.

The report is attached to this letter as **Exhibit A**. The report was prepared by Erik Kiviat, Ph.D., PWS, and Andrew Leonardi, M.S., of Hudsonia—with over 60 years of collective experience in rare wildlife and plant studies—and provides independent, expert analysis unavailable at the time of GBT's original filings.

Among other relevant findings, the Hudsonia Report concludes that ORES has failed to account for numerous environmental impacts, and appears to be improperly concealing evidence of impacts from the public:

> We have reconstructed the known and potential biodiversity, especially species of conservation concern, at and near the proposed Fort Edward Solar site, based on publicly available information (see References Cited and other sources throughout the text of the present report). We believe the applicant and the agencies are concealing critical biodiversity information to expedite approval of the solar project. It is our opinion, as biologists with more than 60 years of collective experience studying rare wildlife and plants, that this case requires public discussion of rare species information, and that little of this information is actually sensitive enough to merit concealment (presumably) in the name of protecting Endangered and Threatened bird species. A solar PV facility will alter habitat for a minimum of 25 years (approximately the useful life of current-generation solar panels), and it is likely the alteration will become permanent when the first cohort of panels ages out and is replaced by new panels or other equipment for capturing solar energy. **Preserving other nearby grassland at the ratio of 1 unit of solar arrays to 0.4 unit of mitigation area does not compensate for the loss of 567 acres of grassland bird habitat; it simply results in the loss of 567 acres of upland meadow and agricultural habitats.** NYSDEC (no date) states: "All grasslands greater than 25 acres within WMAs located inside a GBCC [Grassland Bird Conservation Center] will be managed following the BMPs for grassland birds… Only those WMAs within GBCCs will be required to meet the goals above, though all fields greater than 25 acres should be managed in accordance with the grassland bird BMPs"[.] **The proximity of the proposed solar site directly contradicts the DEC's grassland bird conservation BMPS by disrupting the continuity of habitats in and around the DEC WMA, by its proximity to the WMA on three sides.**

Hudsonia Report, pg. 21

GBT hereby incorporates by reference the Hudsonia Report in its entirety into GBT's initial issues statement and subsequent appeal currently pending before you. GBT requests you

consider this newly available evidence in considering whether GBT's issues statement and party status request were improperly denied.

As stated previously, GBT continues to be open to working with the Applicant to ensure impacts to grassland birds are mitigated or avoided. Unfortunately, the newly available Hudsonia Report only drives home the point that the current studies and mitigation plans currently before ORES are woefully inadequate. Considering the newly submitted Hudsonia Report and granting GBT's appeal will promote a thorough evaluation of environmental impacts, consistent with Article VIII's framework, and allow for adequate mitigation of avoidable harms to critical grassland habitats

Respectfully,

/s/ Benjamin E. Wisniewski

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Preliminary Biodiversity Analysis of the Washington County Grasslands, New York, and Potential Impacts of the Fort Edward Solar Proposal

by Erik Kiviat PhD PWS and Andrew Leonardi MS

Hudsonia

Prepared for the American Land Rescue Fund

8 February 2026

Abstract

At the request of the American Land Rescue Fund, Hudsonia reviewed key documents and natural history information for the proposed Fort Edward Solar project in the Washington County Grasslands Important Bird Area (IBA), New York. Our focus in this analysis is wildlife and plants of conservation concern (i.e., rare, vulnerable, or declining species including officially listed Endangered and Threatened species). The IBA is well known for high species diversity of breeding grassland birds and important numbers of wintering raptors including an Endangered and a Threatened species. Grassland-dependent birds are the group of bird species undergoing the most serious population declines in the U.S. Common milkweed is abundant and the monarch butterfly (a candidate for federal listing) is present; the IBA may support an important population. Several fish Species of Greatest Conservation Need may occur there, likely including American eel. Fifteen species of reptiles and amphibians of conservation concern are likely present. The solar project would install panels on approximately 567 acres (various acreage figures are given depending on the facility components considered, see Newhouse [2025]), close to three sides of the Washington County Grasslands Wildlife Management Area which is well-used by grassland birds and birdwatchers. Grassland breeding birds are highly sensitive to the size of habitat patches and the presence of additional grassland habitat bordering the patches. Although scientific data are sparse, most grassland-dependent birds probably will not nest on a solar facility, and large wintering raptors are unlikely to forage between solar arrays. Installation of the solar project would fragment habitat with a serious negative impact on the assemblage of grassland birds. The required 0.4 acre preserved grassland as mitigation for each 1.0 acre of solar development is highly inadequate to compensate for the loss of grassland habitat for area-sensitive birds.

Additional environmental concerns are the reported weak ability of the local bedrock and soil to support heavy structures, the presence of a geologic fault along the edge of the proposed solar facility area, the potential attraction to polarized light emanating from solar panels that may cause waterbirds using the Hudson River as habitat and movement corridor to collide with panels, changes to the composition of herbaceous vegetation with unclear effects on insect pollinators, and PCBs transported from the nearby Hudson River and deposited on the soil. Documents about wildlife for the proposed solar project are unusually heavily redacted (e.g., Boralex 2023b, ORES 2024), obfuscating and foreclosing the ability of the public and other scientists to understand the project and its potential impacts. The New York State Department of Environmental Conservation states: “Communication, both internally within the Division and externally with the public, NGOs, and other groups, is an important component of this effort and recognized as a central element of this enterprise.” (NYSDEC no date). We conclude that siting a utility-scale solar photovoltaic (PV) facility in the Washington County Grasslands IBA would create intense conflicts with the biodiversity values of the area. DPS-ORES, DEC, relevant NPOs, and other entities should work together to identify sites for large solar projects in New York with minimal adverse impacts on natural resources.

Introduction

Grassland birds are the group of bird species undergoing the most serious population declines of any bird group in New York and the U.S. (NABCI 2025) The 11 species of grassland-dependent birds require extensive non-forested landscapes that constitute a small percentage of New York’s area (*ibid.*). Grassland birds are *area-sensitive*, meaning they require large habitat patches surrounded by additional grassland habitat in order to breed successfully and maintain viable populations. Most landscapes favorable for grassland birds comprise mosaics of active and inactive farmland, and the agronomic practices and economic climate of farming and other land uses are closely linked to the persistence of populations of grassland birds. The Washington County Grasslands (Fort Edward Grasslands) are one of the most

important grassland bird landscapes in New York and New England (Michael Burger, personal communication). Several large, utility scale, solar photovoltaic (PV) energy generation projects are proposed for grassland bird landscapes in New York, including the Washington County Grasslands, and there are almost certainly large negative impacts of such projects on grassland bird habitat and other elements of biodiversity. Other important biodiversity, including insect pollinators and rare plants of statewide concern, also occur in the grassland bird landscapes.

At the request of the American Land Rescue Fund (ALRF), Hudsonia conducted a preliminary biodiversity analysis of the Washington County Grasslands Important Bird Area (WCGIBA, previously known as the Fort Edward Grasslands IBA) near the Village of Fort Edward in the towns of Fort Edward, Argyle, and Kingsbury, New York. ALRF supports solar photovoltaic energy capture but questions the selection of sites for large scale solar photovoltaic facilities that conflict with the conservation of unusually important biodiversity. The aims of our study were to assess the habitat functions and biodiversity support of this area for the biota overall, with emphasis on uncommon and rare species of wildlife and plants known to occur or potentially occurring in the WCGIBA, and to discern potential effects of the proposed Fort Edward solar photovoltaic facility on this biodiversity. Our aim is to supplement the existing environmental discussion with more incisive application of current knowledge about solar facilities and the grassland biota of Washington County.

Hudsonia is a non-advocacy, public interest, nonprofit research and education institute. We do not support or oppose land use projects; rather, we collect and analyze data, synthesize existing information, and make recommendations regarding reduction of impacts. Hudsonia's recommendations are not binding and are intended to supplement other information sources with region- and site-specific, up-to-date, scientific and natural history information to inform and enhance the land use and conservation planning process.

Why is biodiversity, including grassland birds, important to conserve? Biodiversity (biological diversity) constitutes all the variety of life, from the level of genes up to species and further up in complexity to ecosystems and landscapes. Our human lives, and quality of life, depend on biodiversity and the associated ecosystem services such as soil, water, and air quality. Biodiversity in our region (and worldwide) is under threat from habitat loss and degradation, pollution, and anthropogenic climate change. Environmental professionals and the agencies and organizations they serve in play a critical role in ensuring that intensification of land uses avoids unnecessary negative impacts on biodiversity.

The DEC states, "Population declines [of grassland birds] across the northeast are the result of habitat loss. Grassland area across the state has decreased over the last 30 years as a result of development, vegetative succession, and a reduction in pasture and hayfields. Management efforts for the upland sandpiper and other grassland birds in New York have focused primarily on the preservation of open grasslands. Maintaining large, contiguous tracts of grasslands and preventing the encroachment of woody vegetation are important to preserving upland sandpiper habitat. Mowing, plowing, and burning of fields should be avoided during the nesting season." (https://dec.ny.gov/nature/animals-fish-plants/upland-sandpiper). For northern harrier (listed as Threatened in New York) and short-eared owl (listed as Endangered), the two wintering grassland-dependent species of greatest concern, habitat loss is the most important factor in population decline (Smith et al. 2020, Wiggins et al. 2020).
The Fort Edward Solar proposal lacks important detail as to site selection, site preparation, construction, and operation, especially regarding soil management and large trees, and including agricultural co-location and pollinator plantings, to ensure that the project's harm to biodiversity is minimized and mitigated. For this to occur in a truly ecological manner, more detailed information about the site, its position in the vegetation landscape, its soils, and its flora and fauna is needed for consideration in environmentally sensitive solar facility site selection and design. A well-studied and well-planned project

can help to set a constructive example for our region so that the collective and cumulative impacts of solar facilities on each site and the general region are no more harmful than is necessary.

Study Area

The WCGIBA contains about 13,000 acres within the much larger Grassland Bird Conservation Center (Figure 1, Table 1). Our analysis focuses on the IBA with particular attention to the area of the proposed solar project in the southern end of the IBA. The larger Conservation Center covers 102,233 acres of which 38% is grassland (NYSDEC no date).

Audubon New York states regarding the IBA: "This site consists of a large agricultural grassland complex in the Hudson River Valley. The area contains many working farms and grassland areas interspersed with cultivated fields, small woodlots, and wetlands. According to the NY GAP land cover data, approximately 50% of the site is open [non-forested] habitat, including cropland and old field/pasture land." (Audubon no date.)

Table 1. Areas of the Washington County grassland bird habitat components. See Figure 1.

Component	**Area in hectares (acres)**
Washington County Grassland Bird Conservation Center	41,390 (102,233)
Washington County Grasslands Important Bird Area	5,263 (13,000)
Winter Raptor Concentration Area	Not available
Washington County Grasslands Wildlife Management Area	194 (478)
Alfred Z. Solomon Grassland Viewing Area and Bird Trail	32 (78)
Proposed Fort Edward Solar (total)	230 (567)

The WCGIBA includes the Washington County Grasslands Wildlife Management Area (WMA) administered by the DEC and comprising 478 acres in the southern end of the IBA. A private preserve, the Alfred Z. Solomon Grassland Viewing Area and Bird Trail, covers 78 acres owned by the Grassland Bird Trust in the northern end of the IBA (https://www.grasslandbirdtrust.org/). A few other areas of the IBA are under the protection of conservation easements (Figure 1). A large portion of the IBA is designated as a Raptor Winter Concentration Area by the New York Natural Heritage Program (Figure 1). The Fort Edward Solar project (Boralex US Development, LLC) is proposed for approximately 567 acres of the IBA close to three sides (west, south, east) of the WMA and at its southwestern end almost reaching the bank of the Hudson River. (GIS analysis of ownership parcels suggests that the area of the proposed solar parcels is closer to 580 acres [Figure 2]; however, the area calculations may vary depending on how much of the infrastructure is included).

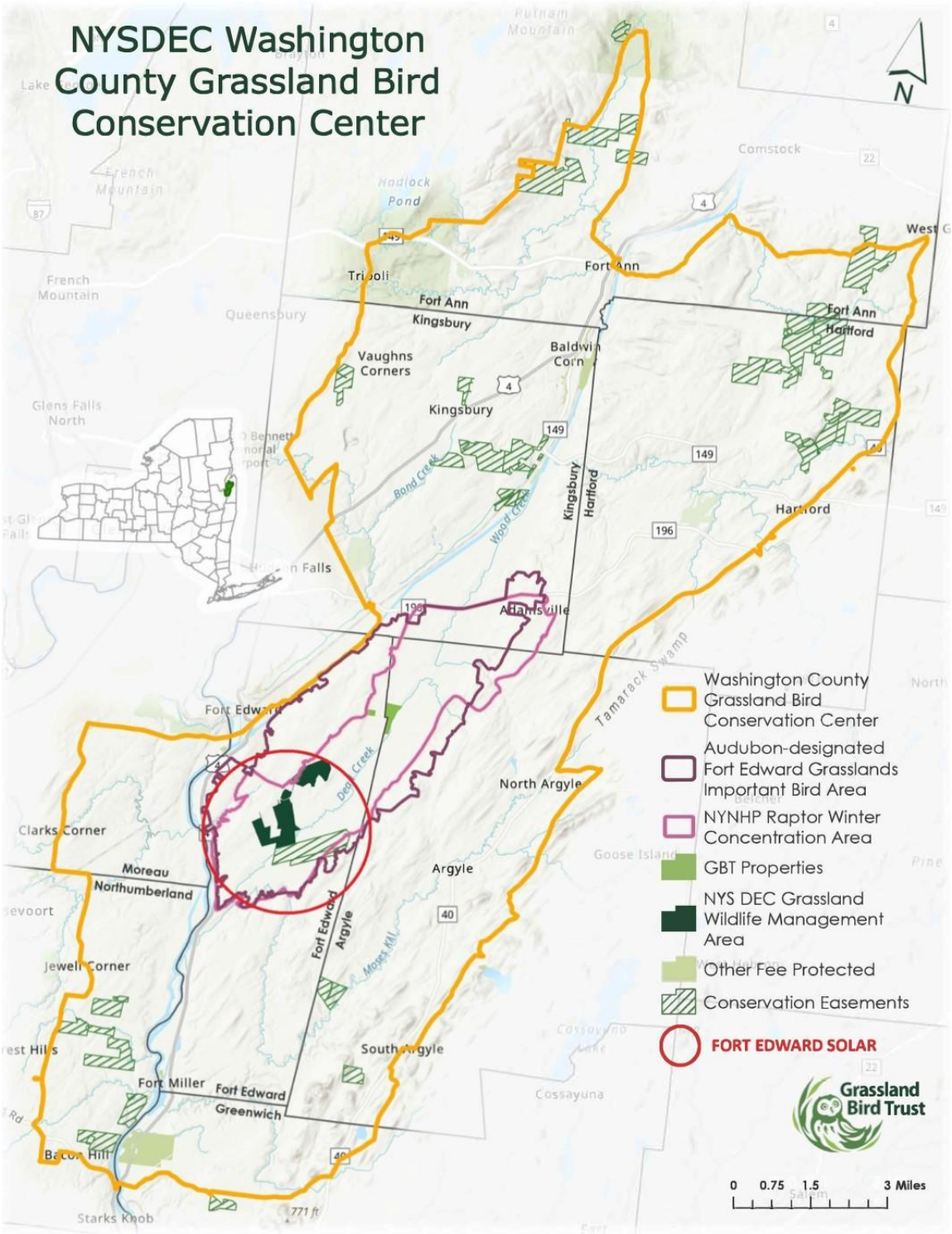

Figure 1. General location of the proposed Fort Edward Solar facility in relation to the boundaries of the grassland bird landscapes of conservation concern. Map from the Grassland Bird Trust.

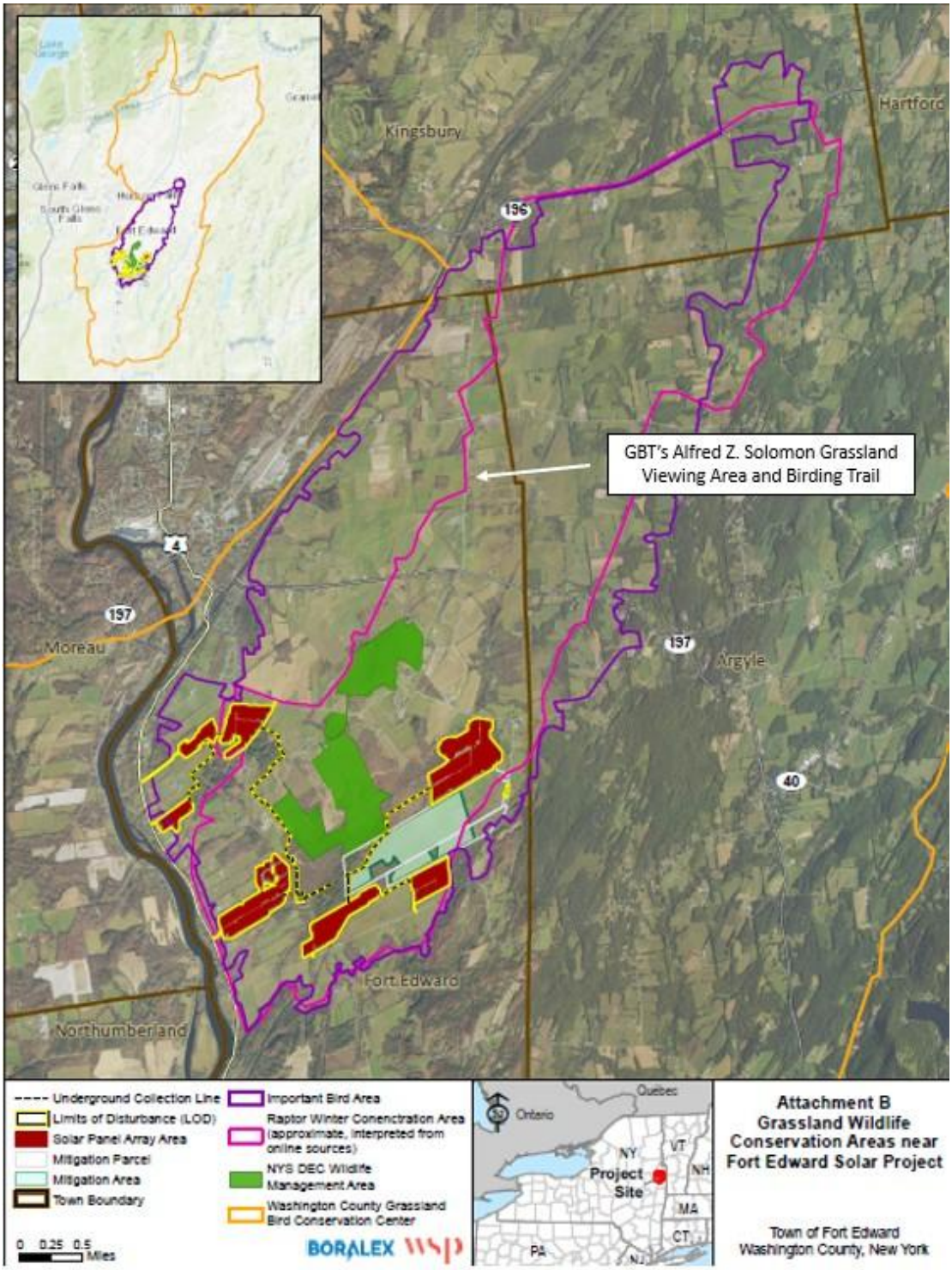

Figure 2. The Washington County Grasslands boundaries and the proposed solar development parcels. The parcels proposed for panel installation may change inasmuch as Boralex controls additional parcels in the same areas. Map from WSP and Boralex.

Several streams drain the area, including Band Creek, Wood Creek, Dead Creek, and the Moses Kill, flowing predominantly northeast to southwest into the Hudson River. The Champlain Canal (completed 1823) connects to the Hudson River just south of the Village of Fort Edward. This reach of the Hudson River is highly contaminated with PCBs originating from General Electric factories in Fort Edward and Hudson Falls (McCay et al. 2021).

The bedrock beneath the IBA, including the solar development area, is shale, mudstone, and locally siltstone (Fisher 1985). An important thrust fault, the Smith Basin Fault, approximately borders the eastern edge of the IBA around the proposed solar facility (Figure 3; Fisher 1985). Although it is often not possible to correlate faults visible at the surface with earthquake activity, many earthquakes have been recorded in the general area (Kafka et al. 1989). There may be areas underlain by carbonates (limestone or similar rocks) in the "mélange" bedrock of the eastern edge of the site, or by carbonate "slivers" (blocks) along the Smith Basin Fault, which has westward-moving carbonates over shale (Figure 3; *ibid.*). Fisher described the shale terrain as "Fair to poor foundation for heavy structures; black shales, containing disseminated pyrite, are subject to swelling and deterioration when exposed to atmospheric moisture in cuts or excavations…slope stability is fair, deteriorates with time…groundwater possibly deleterious to concrete…" (Pyrite exposed to moisture and oxygen can yield sulfuric acid that acidifies the soil as well as potentially degrading concrete). In the geology and soils study for Fort Edward Solar (Boralex 2023c), the weakness of the shale and corrosivity of the soil are confirmed. Notwithstanding, the study concludes that the site is suitable for panel installation. The possible occurrence of karst (porous carbonate bedrock) beneath the solar site is downplayed (*ibid.*), despite that one of the parcels proposed for solar development overlaps the Smith Basin Fault (see above, and Figure 3) the east side of which has carbonate bedrock. Boralex (2023c), perhaps erroneously, cites an older geological study of the Broadalbin quadrangle (Miller 1911) rather than Fisher (1985) which covers most of the Fort Edward Solar site.

Above the shale, soils underlying the parcels proposed for solar development formed predominantly on calcareous glaciolacustrine silt and clay (https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx) with small areas formed on glacial till (Boralex 2023c). The clayey sediments are dense, fine-textured, and moderately calcium-rich. These soils are unstable on steep slopes, and where flat they collect moisture and wet meadows and temporary pools often form. Wet clay meadows (Kiviat and Stevens 2001, page 123) south of the Capital District often support rare plants, and we expect rare plants on the similar soils of the IBA (although the species listed in Kiviat and Stevens for the inner Mid-Hudson Valley may not be the same rare species occurring in similar habitats in Washington County). Boralex (2023c) states that solar development "is not expected" to occur on slopes greater than 25%. Based on our experience (E. Kiviat, personal observations) with Lake Albany glaciolacustrine silty clay soil near Annandale, Tivoli, Stockport, and other upper Hudson River estuary shores, we expect such steep slopes (e.g., 15-25%) to be prone to gradual slumping and occasional sudden landslips when saturated by heavy rains. Historic earthquakes up to magnitude 4.1 and 4.7 are reported near the Fort Edward Solar site (*ibid.*). We strongly suspect that such an earthquake occurring during or soon after an intense rainstorm saturates the clayey soils would result in slumping and sliding that would be deleterious to solar panels mounted in ca.-14 foot deep unconsolidated glaciolacustrine soils.

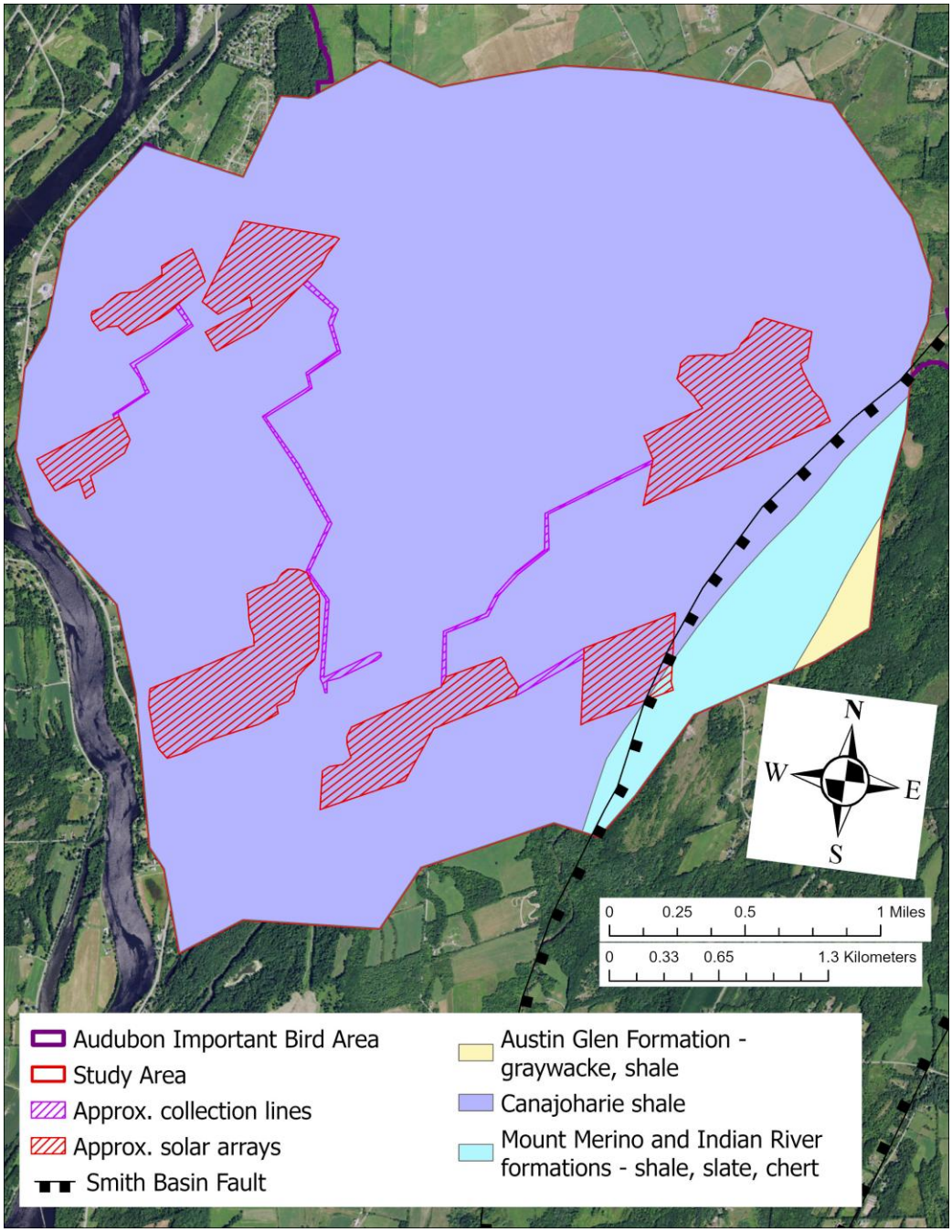

Figure 3. Bedrock underlying the Fort Edward Solar project area and the Smith Basin Fault. Bedrock and fault data from the New York State Museum (https://nysm.nysed.gov/research-collections/geology/gis).

Table 2. Grassland-dependent bird species using the Washington County Grasslands Important Bird Area. Data sources are in Footnotes. All species in this table have been reported from the WMA or solar project area in eBird with the possible exceptions of Henslow's sparrow. The presence of sedge wren in the IBA is mentioned by Newhouse (2025).

Species	Recommended minimum field size, ha (ac)[1]	Number breeding or wintering[2]	State listing status[3]
Bobolink	10	B 75+ pr (1997)	High Priority SGCN
Eastern meadowlark	15	B 10+ (1997)	High Priority SGCN
Grasshopper sparrow	50-100+	B mean=1, max. = 4 inds. (1994-2001)	Special Concern
Henslow's sparrow	60+	B 2-7 inds (1997-2001)	Threatened
Horned lark	1-10	W mean 115, max 190 (1993-2003)	Special Concern
Northern harrier	30+	B 2 pr. (2000) W mean 10, max. 17 inds (1993-2003)	Threatened (proposed Special Concern)[3]
Savannah sparrow	5-10	B 25+ pr (1997)	Not listed
Sedge wren	10-20	No data	Threatened
Short-eared owl	Large	B 0 W mean 13, max. 22 (1993-2001)	Endangered
Upland sandpiper	30+	B mean 6, max. 10 inds. (1993-1996, 1998-2001)	Threatened
Vesper sparrow	10	B 25+ pr (1997)	Special Concern

[1] Minimum area of grassland habitat required for breeding (Morgan and Burger 2008).

[2] Number of individuals or pairs recorded breeding or wintering in the Important Bird Area. B = Breeding, W = Wintering, year(s) = year(s) of record (Audubon no date). These are the most recent numbers available.

[3] The northern harrier is currently listed (by law) as a Threatened species in New York and it is a rare breeder in the state (McGowan and Corwin 2008). It is proposed to down-list the harrier to Special Concern, which would probably eliminate the requirement to seriously consider the welfare of this species in planning major land use projects.

Methods

We reviewed accessible publications on the natural history of the Washington County Grasslands IBA region and selected Boralex documents for the solar proposal, as well as statewide natural history publications with relevant species distribution data. We searched eBird.org and iNaturalist.org for field observations on the regional biota. We also communicated with several biologists and naturalists who have conducted field work in the region or have studied similar areas in New York or southern New England. All formally published literature, gray literature, and sources of unpublished information are sited in this report.

Figures 3-5 were constructed from publicly available digital data using GIS software. Data came from the New York GIS Clearinghouse, USDA Web Soil Survey, Washington County tax parcel viewer (https://gis.washingtoncountyny.gov/webmap/), National Land Cover Data impervious surface dataset, Grassland Bird Trust, and Boralex documents. The base maps for Figures 3-5 were adapted from 2019 and 2021 Orthoimagery from the GIS Clearinghouse. Habitats were identified visually on the orthophotos. Although we often conduct field verification of our habitat mapping, we were not able to make original field observations in the study area. We are depending on the accuracy of cited sources but are not responsible for any errors therein.

Table 3. Additional bird species of conservation concern reported from the Washington County Grasslands Important Bird Area. Some of the species in this list are presumably associated with patches of woodland, shrubland, marsh, and other non-grassland habitats within the IBA. Many additional records are in eBird. Sources: eBird.org and Recer and Stoner (1996).

Species	**Listing status (New York)**	**Comments**
American bittern	Special Concern	Carrying nest material (6-June-2019 Cary Rd, eBird; also 24-June-2021 WMA)
American black duck	High Priority SGCN	November record
American kestrel	SGCN	Grassland, large trees for nesting
American woodcock	SGCN	Grassland, wet meadow, woodland, swamp
Black-billed cuckoo	SGCN	Shrubland, woodland
Brown thrasher	SGCN	Shrubland, woodland edges
Canada warbler	High Priority SGCN	Forest, swamp
Common nighthawk	Special Concern (proposed Threatened)	Nests on more-or-less bare ground or flat roof
Cooper's hawk	Special Concern (proposed for delisting)	Woodland species; reported ebird
Loggerhead shrike	Endangered	Potential in the WCGIBA but not reported
Long-eared owl	SGCN	Roosts variously in trees or other substrates
Osprey	Special Concern (proposed for delisting)	Forages open water; nests on built structure or dead tree
Prairie warbler	SGCN	Shrubland, shrubby grassland
Red-shouldered hawk	Special Concern	Forest, swamp, forest edges
Ruffed grouse	SGCN	Woodland
Scarlet tanager	SGCN	Woodland
Sharp-shinned hawk	SGCN (proposed for delisting)	Woodland, edges
Wood thrush	SGCN	Woodland

A note on terminology. "Grassland" habitats in New York are often included in the term "early successional" habitats or vegetation, i.e., not dominated by shrubs or trees. We do not use the term "early successional" or "succession" because of the associated vagueness and theoretical ambiguity in the use of the terms (Drury and Nisbet 1973, Pickett et al. 2013). Grassland habitat of good quality for grassland birds is defined as having < 25% cover by shrubs, and ideally no more than 25% forb cover – i.e., dominated by graminoids which are principally grasses (Poaceae), locally with sedges (Cyperaceae) and rushes (Juncaceae). Grasslands that are not hayed or otherwise managed tend to shift gradually to woody vegetation (shrubs and young trees) unless soils are very shallow or an area has burned.

"Grassland birds" and the subset "grassland-dependent birds" (see below for species) are diverse groups of species that are not all taxonomically related. The appropriate term for a group that shares a habitat but not taxonomy is an *assemblage* (or *community*). We refer to the rows or groups of solar panels as *arrays*, and the overall installation, including arrays, fencing, power lines (collectors), inverters, and other infrastructure as the solar *facility* and its physical location as the *site*. The term *solar farm* or *solar park* often appears in the scientific and popular literature and is comparable to our *solar facility*.

Results

Figures 1-2 shows how the proposed Fort Edward Solar parcels and the Wildlife Management Area are nested within the Raptor Winter Concentration Area, within the IBA, and within the Grassland Bird Conservation Center, respectively. Although the solar site and WMA are predominantly occupied by

upland meadow (i.e., mesic grassland; Figure 4), other habitats present in relatively small extent include wet meadow, swamp, upland shrubland, upland forest, and wooded hedgerow (Figure 4).

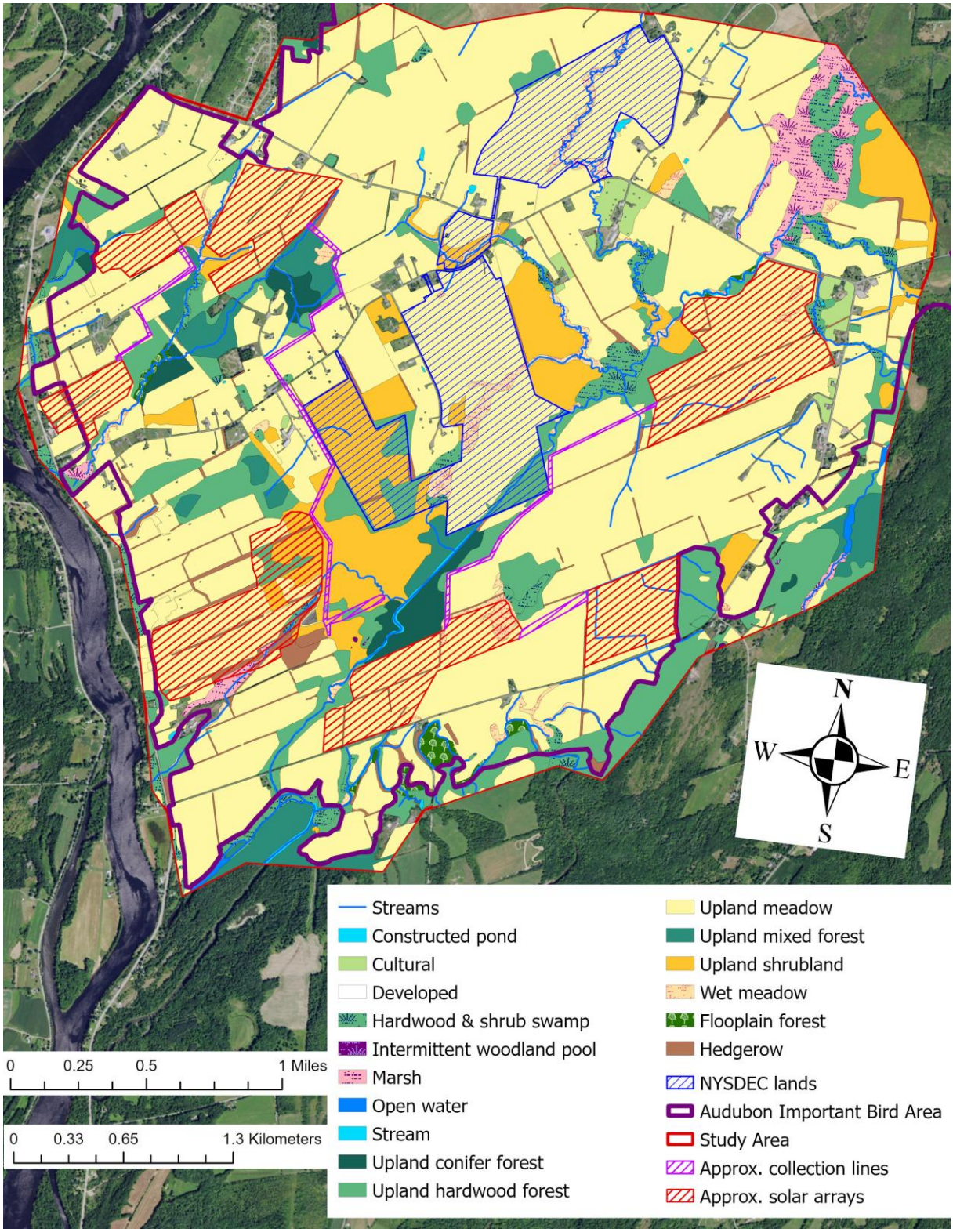

Figure 4. Habitats of the proposed solar facility site, Wildlife Management Area, and surroundings. (See Methods for the data sources for Figures 3-5).

Birds

The 11 target grassland-dependent bird species of the DEC grassland bird conservation plan (NYSDEC no date) are: bobolink, eastern meadowlark, grasshopper sparrow, Henslow's sparrow, horned lark, northern harrier, savannah sparrow, sedge wren, short-eared owl, vesper sparrow, and upland sandpiper. Table 2 shows typical minimum field sizes in suitable breeding habitat for each species, and available population survey data for breeding and wintering. There may be more recent quantitative population surveys that we have not discovered.

Additional species of conservation concern include the American kestrel, a declining bird that uses landscapes with grassland and at least a few large trees containing potential nesting cavities. (Kestrel has been observed frequently in the area according to Boralex [2023b] and eBird [ebird.org]). The common nighthawk also likely breeds in the IBA (McGowan and Corwin 2008). The IBA, including the WMA, hosts important winter foraging and roosting activity of the northern harrier, short-eared owl, and horned lark. While we do not have access to the redacted information in the Boralex and ORES documents (e.g., ORES 2024), given the similarity (e.g., predominance of upland meadow, Figure 3) of the proposed solar parcels to the WMA and roadside birdwatching locations (Recer and Stoner 1996), we fully expect that the solar parcels support a similar winter bird assemblage and probably many of the breeding birds. Ten of the 11 imperiled grassland bird species occur in the Grassland Bird Trust preserve farther north in the IBA (https://www.grasslandbirdtrust.org/about-us/).

"Fort Edward is an exceptional grassland bird breeding and wintering area… It is also an important raptor wintering area with large numbers of Northern Harriers (average 10, maximum 17 individuals from 1993-2003), Short-eared Owls (average 13, maximum 22 individuals from 1993-2001), and Horned Larks (average 115, maximum 190 individuals from 1993-2003)." (Audubon no date.)

Other sources confirm that the area is a crucial landscape for grassland breeding birds, including bobolink, eastern meadowlark, and savannah sparrow (McGowan and Corwin 2008, Recer and Stoner 1996; ebird.org). Other rare or declining breeding species, such as American kestrel, American woodcock, Wilson snipe, and common nighthawk, occur in the area in spring and very likely breed there. Because the bird surveys conducted by the applicant's consultants are largely redacted in their reports, we (and the public in general) are unable to incisively assess the impacts of the proposed solar facility on any of these species. However, we have found ample documentation of breeding and wintering by many bird species of conservation concern, and the potential loss of an evidently important biodiversity resource is concerning. Newhouse (2025) states that birds will be monitored on the proposed solar parcels prior to and following panel installation to determine how the bird assemblage is responding to development. While this is a good idea, it does not solve the problem of damage to an unusual landscape and habitat complex, nor does it address a course of action if the bird assemblage responds negatively to panel installation.

Insect Pollinators

Many species of bees, butterflies, and other pollinating insects are doing poorly, and both New York and the federal government have promulgated pollinator conservation plans (NYSDEC 2016, Kearns & West 2025, NYSDAM 2025). The monarch butterfly, moreover, has declined greatly across much of its North American range and is a candidate for federal listing under the Endangered Species Act. Grasslands such as the Washington County Grasslands, with vegetation having a mixture of graminoids and forbs, are highly important habitats for insect pollinators. The southern portion of the IBA is reported to support significant stands of milkweed, the host plant for monarch larvae. Although many solar PV projects have managed vegetation in attempts to provide host plants and nectar plants for pollinators, there is a dearth of

information about the success of these efforts (Graham et al. 2021, Grodsky 2024, Lec'hvien et al. 2025). Although solar arrays interspersed with plantings of flowering forbs should benefit pollinators, little is known about how flower-visiting insects find nectar, larval host plants, and microhabitats for pupation and overwintering in solar facilities.

There is a population of the Endangered Karner blue butterfly in the Saratoga Sandplains WMA (Shaw 2025) approximately eight miles southwest of the Fort Edward Solar site, and its larval host plant, wild blue lupine (*Lupinus perennis*) occurs in Washington County as well (NYFA 2025). There may be lenses of acidic sands in the glaciolacustrine clays, as is the case farther south in the Lake Albany terrain. Possibly both blue lupine and Karner blue occur in the IBA and they should be surveyed for.

Fish

Several streams flow through the IBA, including the proposed solar area. We consulted the two principal references on the distributions of New York fishes (Smith 1985, Carlson et al. 2016) to create the list in Appendix 1. This list shows that 10 fish Species of Greatest Conservation Need (SGCN) have been documented in or near the solar site and should be considered in any plan to develop facilities or substantially change management in another way. An additional 3 fish SGCN have been found in or near the more northerly portions of the IBA. Soil disturbance associated with solar facility construction, and ancillary activities, are likely to pollute the local streams with fine soil material, plant nutrients, and other contaminants that will lead to reduced water quality and degraded habitat for fish and aquatic invertebrates. The "Aquatic Ecology" document for Fort Edward Solar does not even mention fish or aquatic invertebrates.

The American eel is a SGCN and a candidate for federal listing. The Hudson River system supports an important segment of the East Coast eel population, and considerable efforts are being expended to study and promote the conservation of eel habitats and eels. Young eels migrate up tributary streams, some individuals passing around natural and artificial barriers. We expect that eels are present in the Hudson River tributaries crossing the IBA. The welfare of eels and the impacts of the proposed solar project need to be considered incisively.

Reptiles and Amphibians

The streams crossing the southern end of the IBA, and the Hudson River itself, as well as marshes, wet meadows, and temporary pools collectively are likely to support five turtle species of conservation concern (Table 4). Wetland and upland habitats, including grassy areas, may support 10 additional snakes, frogs, and salamanders of conservation concern (Table 4). We are not aware of any survey or habitat assessment for reptiles or amphibians for the solar project.

Turtles are long-lived, "slow" reproducting animals, and lacking parental care in northeastern species. Eggs and hatchlings are often subject to high rates of predation and mortality. Adult turtles must have high rates of survival from year to year to maintain a population. Therefore, loss of only a few adult individuals from a population can lead to local decline of a species. All reptiles and amphibians are very sensitive to habitat loss and disturbance, soil-modifying activities such as grading and cut-and-fill, morbidity and mortality caused by road vehicles and construction equipment, storm drains and certain types of curbs, hydrological and other alterations to wetlands and pools, and salinization from deicing salts. We know of no published research on solar PV facility impacts on the herpetofauna.

Table 4. Reptiles and amphibians of conservation concern likely to occur at the Fort Edward Solar site. Likely presence inferred from range maps and habitat notes in Gibbs et al. (2007) and field studies farther south in New York (E. Kiviat, personal observations).

Species	Habitats	Conservation status
Turtles		
Snapping turtle	All surface waters; upland nesting	SGCN
Musk turtle	Permanent surface waters including streams; upland nesting	SGCN
Spotted turtle	Permanent & intermittent pools & ponds, wet meadows, marshes; upland nesting	Special Concern
Wood turtle	Streams; upland nesting	Special Concern
Northern map turtle	Hudson River, Champlain Canal; upland nesting	SGCN
Snakes		
Eastern racer (black racer)	Shrubland, woodland, marsh edges, pastures, etc.	SGCN
Eastern ratsnake (black rat snake)	Woodlands, woods-field edges, rocky areas, etc.	SGCN
Eastern hog-nosed snake (hognose snake)	Woodlands, oldfields, sandy areas	Special Concern, High Priority SGCN
Eastern ribbonsnake (ribbon snake)	Open wetlands, wetland and pond edges	SGCN
Smooth greensnake (smooth green snake)	Wet grassy areas, meadows, etc.	SGCN
Frogs		
Fowler's toad	Sandy woodlands and floodplains, rocky areas	SGCN
Salamanders		
Common mudpuppy	Hudson River and possibly tributaries	SGCN
Jefferson salamander complex	Woodland pools, nearby uplands	Special Concern
Blue-spotted salamander complex	Woodland pools, deep-flooding swamps, nearby uplands	Special Concern
Four-toed salamander	Woodland pools, other mossy wetlands, nearby uplands	SGCN

Plants

Extensive non-forested landscapes can also support rare plants. For example, Hudsonia found a number of species of statewide-rare and regionally-rare species at the Flint Mine Solar site in the Greene County Grasslands (Table 5; Heffernan and Kiviat 2019). We also found rare plants, including the first documentation of western beakgrain (*Diarrhena obovata*), in the Shawangunk Grasslands (Stevens 1992). Much of the Fort Edward Solar site is underlain by calcareous, silty clay soils similar to those that often support rare plants in the Mid-Hudson region.

Evidently, no survey for rare plants has been conducted in the Fort Edward Solar area. Steve Young (personal communication), in a survey of the Grassland Bird Trust preserve farther north in the IBA, found an abundance of Georgia bulrush (*Scirpus georgianus*; New York Endangered) as well as a large population of the uncommon glossy-leaved aster (*Symphyotrichum firmum*; S4). We suspect there are other important rare plants in the IBA including the proposed solar site. Without proper surveys, these elements of biodiversity will be compromised. It is also important to note that the New York Flora Atlas has records of various rare, threatened, or endangered plant species in Washington County, some of which may be found in the habitats where the proposed solar array is sited (NYFA 2026).

The greatest extent of soils underlying the proposed solar parcels comprises Farmland of Statewide Importance (Figure 5). Many, if not most, nature reserves in the Northeast are focused on either wet or rocky landscapes that are not readily farmed or developed. Low elevation, fertile, mesic (middle moisture) habitats support species that are not found in very wet or very dry areas. Few such landscapes are conserved or recognized for biodiversity and the grasslands IBAs are an exception. Prior to decisions about land use development in the WCGIBA, the proposed solar parcels should be carefully examined for rare organisms or ecological processes germane to such soils, and assessment of their potential importance for conservation.

Table 5. Rare Plant Species found at the Flint Mine Solar Facility Site in the Greene County Grasslands. The terms “Endangered,” “Threatened,” and “Rare” refer to legal status in New York State, and the S-ranks and “Watch List” refer to categories used by the New York Natural Heritage Program (Ring 2025). The rarity ranks in this table are updated to current status. Status is based on the numbers of confirmed localities in the state and indicates increasing rarity fro S5 to S1 (Ring 2025). “Regionally-rare” species are not state listed but are considered rare in the Hudson Valley according to professional experience. * Specimen record for Washington County (NYFA 2026). It should be noted that lack of a county specimen record in NYFA (2026) does not mean the species is not present.

Common name	***Scientific name***	**Rarity**
Southern (small-flowered) agrimony	*Agrimonia parviflora*	Uncommon, probably regionally-rare in Greene Co.
Green rock cress	*Borodinia missouriensis*	S2 Threatened*
Ambiguous sedge	*Carex amphibola*	S4 – Endangered*
Bush’s sedge	*Carex bushii*	S3S4 - Rare*
Blue sedge	*Carex glaucodea*	S2 Threatened
Troublesome sedge	*Carex molesta*	S4 Threatened*
Reflexed sedge	*Carex retroflexa*	S4 Threatened*
Willdenow’s sedge	*Carex willdenowii*	S4 – Watch List, Rare
American purple clematis	*Clematis occidentalis* var. *occidentalis*	S4 regionally-rare*
Winged monkeyflower	*Mimulus alatus*	S4 – Rare
Violet wood sorrel	*Oxalis violacea*	S4
Rock sandwort	*Sabulina michauxii* var. *michauxii*	Not state listed, regionally-rare
Georgia bulrush	*Scirpus georgianus*	S1S2 Endangered*
Stiff flat-topped goldenrod	*Solidago rigida* var. *rigida*	S2 Threatened
Sand hedge nettle	*Stachys arenicola*	S1 (should be Endangered)

Polarized Light Pollution

Solar panels result in polarized light pollution (PLP) that can attract the flying adults of aquatic insects to lay eggs on solar panels instead of in water (Horváth et al. 2010, Fraleigh et al. 2021). Additionally, polarized light is at least partly responsible for bird and bat collisions with panels (Chock et al. 2021). Before the interactions between birds and other flying wildlife and solar panels are better understood, and panel design incorporates elements to reduce PLP, it is hazardous and inappropriate to site a 567-acre solar facility in an area so important for rare and declining grassland birds. Water birds that use aquatic habitats of the Hudson River, tributaries to the Hudson River, flight paths paralleling the Hudson River, and the Champlain Canal would also be vulnerable to collisions with panels. Some water birds are believed to confuse panels with water surfaces thus precipitating collisions and mortality, although the biophysical mechanism and importance of this phenomenon are still being worked out (Kosciuch et al. 2025).

PCB Contamination

Studies of PCB contamination and effects on biota are mostly restricted to the Hudson River proper and immediate riparian areas. With the exception of Brinkman et al. (1980), we were unable to find any literature regarding atmospheric transport of PCBs to nearby off-river areas such as the southern end of the IBA. Brinkman et al. found elevated levels of a PCB in rainfall on Fort Edward. As early as 1972, it was known that PCBs were transported well away from sources by air and organisms (Nisbet and Sarofim 1972). PCBs can be transported aerially many kilometers from sources (McClure 1976), and the entire Fort Edward Solar site is within about 4.6 km of the Hudson River (Figure 2). The likelihood of PCB contamination of soils and surface waters needs to be considered in the planning and permitting of the Fort Edward Solar project inasmuch as the installation of solar panels involves soil disturbance. Such disturbance could remobilize PCBs into the air and water.

In the Fort Edward area, the New York State Department of Health (NYSDOH 2006) found the PCB levels in air were higher within 0.75 mile (1.2 km) of the Hudson River compared to farther away. This distance encompasses the locations of the southwestern portion of the proposed solar arrays (Figures 1-5). Once deposited on soils, PCBs can volatilize into air or be mobilized with dust (soil particles; USEPA 2014). Although mobilization from soil is expected to be minor (*ibid*.), it could be significant in the concentrated operations of panel installation on the large area involved.

Another study (S E A Consultants 2002) found PCB contamination in short-tailed shrews on Hudson River floodplain soils. One sampling station, number 10, was on the east “bank” of the Hudson River just north of Black House Road at an unspecified distance from the river. Soil samples from station 10 contained up to either 69 or 136 ppm (parts-per-million) PCBs, depending on the analytical lab used. Meadow voles, the major winter prey of northern harriers and short-eared owls, were also found at station 10, but were not analyzed for PCBs. A conclusion of the report (*ibid*.) was “the detection of PCBs in short-tailed shrew (*Blarina brevicauda*) tissue indicates the bioavailability of soil PCBs to higher level organisms.”

Discussion

The WCGIBA and the larger landscape of the Conservation Center are highly important for the conservation of grassland birds in New York (Morgan and Burger 2008, NYSDEC no date, Michael Burger pers. comm.). Depending on the species, grassland birds require field sizes of about 1 to 100+

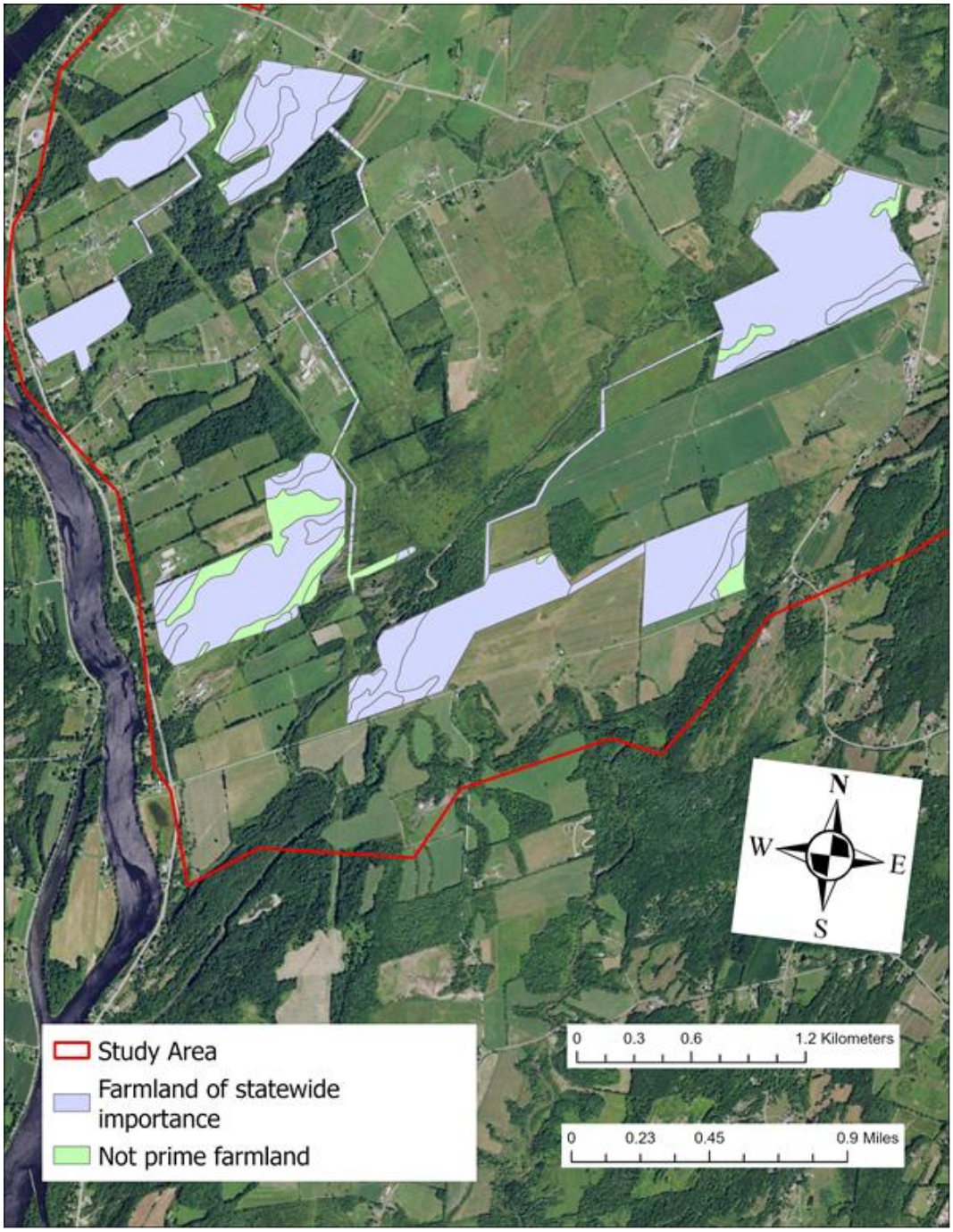

Figure 5. Distribution of Farmland of Statewide Importance soils in the proposed Fort Edward Solar parcels. Soils data from USDA Web Soil Survey.

hectares (about 2.5 to 250+ acres; Table 2; Morgan and Burger 2008). The habitat adjoining the field is also important; for example, Breeding Bird Atlas grassland blocks, if surrounded by other grassland blocks, support higher density of grassland birds (*ibid*.).

"For both wind resource areas and solar facilities, direct and indirect effects may be minimized by siting facilities away from concentrated populations of birds of prey at migration, foraging, or roosting sites." (Dwyer et al. 2018). Some of the smaller birds may be able to use the habitats between and beneath solar

arrays. For example, American kestrels, small falcons that eat grasshoppers, small rodents, and small birds, may be able to perch on solar panels and forage in the lanes between arrays. Whether northern harriers or short-eared owls can forage among the arrays is unclear, although large low-flying raptors such as these generally forage in very open areas. Grassland songbirds, such as bobolink, generally avoid nesting near tall objects where predatory birds may perch; thus it seems likely grassland songbirds would avoid nesting among fenced solar arrays. Some of the common, ground-nesting or structure-nesting, ecologically generalized songbirds such as the house wren and song sparrow, may be able to do so. Golawski et al. (2025), studying small-scale (ca. 5 hectare) fenced solar PV facilities in Poland, found that generalist songbirds (corn bunting and whinchat) were more abundant at the solar facilities, whereas an area-sensitive (Csikós and Szilassi 2021) grassland bird, the skylark, was less common there. Grassland birds in the Northeast are highly area-sensitive (Table 2).

The scientific literature on bird use of solar PV facilities is extremely limited (Martín-Taboada 2026). Without attempting a comprehensive review of the fragmented international literature, a few examples will suffice. A 2.5-year study of a 150 MW PV facility in southern Spain recorded six species of raptors with a large range of size using the facility for perching and hunting but did not compare the solar facility to undeveloped grassland before solar installation or at other sites (*ibid.*). Raptors were never seen flying in the ca. 3-m wide lanes between rows of solar panels (Miguel Ángel Farfán Aguilar, email to E. Kiviat dated 21 January 2026). A one-year study of three smaller PV facilities in the US found lower diversity of birds, and lower biomass of larger birds, using the facilities compared to other grasslands at the same airports (Devault et al. 2014). Smallwood (2022), based on a review of data from bird and bat mortality monitoring at commercial-scale PV facilities in California deserts and grasslands, and using correction factors from original research, estimated that fatalities per megawatt (MW) per year averaged 11.61 birds and 0.06 bats. These estimates included mortality from collisions with fences and other solar PV infrastructure as well as solar panels and are much larger than previous estimates based on monitoring single sites (*ibid.*). Although Smallwood's analysis has been questioned (Kosciuch et al. 2025), it would be prudent for protection of a seriously declining group of birds to avoid large scale solar panel installation in a crucial landscape for grassland birds. Smallwood (2022) also estimated large impacts of habitat damage due to grading for facility construction (which, as well as clearing, would take place on some of the parcels at Fort Edward – Boralex estimates 74 acres of grading (Boralex 2023c). Vermont grassland bird researcher Noah Perlut (personal communication) observed that bobolinks and savannah sparrows did not breed in a solar PV facility, but that American kestrels are known to use them for hunting. Not surprisingly, effects of solar facilities on wildlife are site- and species-specific. Notwithstanding, the currently available evidence indicates that a utility-scale (e.g., 100 MW) solar PV facility in the middle of an important area of the Washington County Grasslands IBA would be very harmful to the grassland bird assemblage.

Mesomammals, such as foxes and woodchuck, were observed by means of camera traps foraging among smaller-scale solar arrays (Hibbs 2021). Frequency of detection by species was mostly lower within compared to outside the solar arrays. Hibbs (*ibid*.) also recorded many species of birds foraging and nesting within arrays but did not state which species nested there nor in what numbers. These bird species were mostly ecological generalists and not grassland-dependent species; the solar facilities studied were of modest size and not situated in extensive grasslands. In order for habitats within solar facilities to be usable, mesomammals must be able to enter and leave the fenced areas. Spaces or openings in the fencing should be left for wildlife passage. Passages through fencing will also serve for other small terrestrial animals including nesting and migrating turtles.

Much siting of large solar PV facilities seems to focus on transmission line proximity, land availability, and gentle topography, rather than protection of critical biodiversity resources. Agha et al. (2020) pointed out the importance to solar and wind energy impacts on wildlife of "siting (i.e. proximity of facilities

relative to wildlife migratory paths, critical resources or habitats, and regional topography and climate)." Treasure et al. (2025), in a worldwide review of solar facility impacts on ecosystem services, identified construction in grasslands as producing greater negative impacts than in certain other environments. The proposed Fort Edward Solar project seems to ignore these paramount considerations of siting.

ORES (2025) states in an educational fact sheet: "Environmental Protection: Developers must avoid, minimize, and mitigate environmental impacts… Compliance Monitoring: Ensures projects follow environmental rules. Projects are required to have full-time independent environmental monitors. Additionally, ORES and DEC staff inspect all projects." We believe that, in the case of the WCGIBA, the developer has not adequately avoided, minimized, or mitigated environmental impacts on grassland bird habitats. The redactions in the Boralex documents obfuscate assessment of this sequencing process. Newhouse (2025) states that because northern harriers and short-eared owls were observed next to, and flying over, a smaller existing solar PV facility, solar arrays do not constitute a loss of habitat. We do not find this or any other available information to be a scientific justification for the 1:0.4 mitigation ratio; this guideline means that one full unit (1.0) of habitat extent is lost and that the mosaic of grassland is smaller overall which likely would reduce landscape suitability for area-sensitive obligate grassland birds.

An overarching issue, in addition to the local resources and decisions, is the apparent lack of the identification of and the use of landscapes for solar development that *do not* support critical biodiversity or other important ecosystem services. Scenic Hudson's *Solar Mapping Tool* (https://www.scenichudson.org/our-work/climate/renewable-energy/welcome-to-scenic-hudsons-solar-mapping-tool/) is a useful framework for addressing this question, but does not extend north to Washington County.

It is unclear to us why the applicant (Boralex), their consultants, and the regulatory agencies opted to redact large portions of the wildlife reports (Boralex 2022, 2023b). This is by far the strongest attempt we have seen to conceal this type of information in environmental documents. Due to the extensive redactions and their contexts, we can only reasonably assume that redactions are intended to conceal the exact locations where state-listed Endangered and Threatened birds forage, perch, roost, and nest, and that many redactions indicate many or strong conflicts with species of conservation concern. Our experience with the biological studies and planning for the Flint Mine Solar project (Heffernan and Kiviat 2019) suggested that the DEC automatically conceals location data for the Endangered short-eared owl and the Threatened northern harrier, even where many of these locations were known to the local community of birders, naturalists, and other interested citizens as was the case at Flint Mine Solar. In our opinion, most of this information is not sensitive, inasmuch as the Endangered and Threatened raptors just mentioned, and the other grassland bird species of conservation concern, are well known to birders in and around the WMA and including those parcels proposed for solar development where they are visible from public roads (Recer and Stoner 1996). Although during the late 1800s and much of the 1900s, birds of prey were shot or trapped in the belief that raptors were a threat to poultry and small game, very little of this kind of persecution continues. (It is now widely appreciated that raptors in general are beneficial to agriculture and human residences by preying on rodents such as meadow vole, white-footed mouse, and grasshoppers.)

Rare biota that are subject to commercial or local exploitation (e.g., the Endangered bog turtle or the Threatened timber rattlesnake) are not expected to occur in the IBA. The rare plants that are known, or likely, to be present at the IBA are not species subject to poaching. At the Flint Mine Solar site, Heffernan and Kiviat (2019) consulted the New York Natural Heritage Program and did not conceal the locations of several statewide-rare and regionally-rare plants (Table 5) that were key concerns in facility design.

For species that are vulnerable to disturbance or collection, overall or in connection with certain life history aspects (e.g., nesting, winter roosting), it may still be appropriate to partly or fully disclose locations during the environmental review process. Public discussion of the conservation of rare species is often necessary in order to protect those species and their habitats and landscapes from adverse impacts in the short and long term (Fischman and Meretsky 2001). With reference to the federal Endangered Species Act (analogous to the New York law), "take" (which is broadly defined as any action that may compromise the survival or health of Endangered or Threatened species) "decisions should be made only after the supporting documents provide: (1) designation of critical habitat based on use and availability methods; (2) risk assessment(s) for proposed take and other project impacts; (3) ecosystem assessment by trained ecosystem ecologists; (4) a description of an adaptive management program involving more than post hoc adjustments to problems in mitigation design; (5) a description of the proposed scientific monitoring along with thresholds for application of adaptive management; (6) uncertainty analysis along with estimates of species' abundance and project impacts; (7) nonselective, academic-quality referencing of data, methods, and theory supporting the conclusions; and (8) reviews of the assessment by independent scientists" (Smallwood et al. 1999). In other words, secrecy can be an enemy of rare species conservation in cases where actions such as land use projects alter habitat unfavorably or otherwise compromise a species intended to be protected. Smallwood et al. are, among other things, asking for a system of review by competent independent scientists such that a permit applicant does not, intentionally or unintentionally, bend data to its (biased) advantage. We believe that in the Fort Edward Solar case it is mostly unnecessary to conceal raptor locations to prevent killing of or disturbance to the birds. Notwithstanding, northern harrier is variably sensitive to human activity in its foraging and nesting sites, and buffer zones are needed (Patricia Serrentino, personal communication). Guidelines for birdwatchers and other persons, created to keep observers on roads and trails, along with education and peer pressure, can largely prevent disturbance to nesting, roosting, and foraging birds.

It should be noted that any reasonable definition of "critical habitat" for grassland birds, if such critical habitat were required to be identified, would include the site of the proposed Fort Edward Solar facility and the rest of the IBA and Conservation Center. Only additional expert biological surveys and data transparency will allow appropriate conservation of this landscape for grassland birds, and potentially rare fishes, vulnerable herpetofauna, rare odonates, pollinators, rare plants, and other biota of conservation concern. The siting of utility-scale solar PV projects in critical landscapes for grassland birds and other rare biota, which seems to be occurring around the state, is a risky precedent for management of severely declining species.

NYSDEC (no date) states about habitat conservation and management for grassland birds:

> *a. Communication, both internally within the Division* [of Fish and Wildlife] *and externally with the public, NGOs, and other groups, is an important component of this effort and recognized as a central element of this enterprise.*
>
> *b. We will share HMPs* [Habitat Management Plans] *and grassland conservation plans with the public to provide information and gain support for our habitat management and to promote the benefits of conserving grassland habitats.*
>
> *c. A central message will be that we are restoring and enhancing grasslands for birds and other wildlife habitat. We are encouraging the public to manage grasslands to benefit grasslands birds.*

d. Larger grasslands on WMAs within the GBCCs [Grassland Bird Conservation Centers] *will serve as demonstration areas for the public. Signage will explain the reasons and methods for managing grasslands for birds and other wildlife.*

We believe these guidelines are not being met in the DEC review and negotiation of permit applications, mitigation planning, and other aspects of the Fort Edward Solar project. A potential alternative to a single utility-scale solar project that converts 567 acres of biologically critical grasslands is a more dispersed project on a larger number of smaller fields, along with panela installation on parking lots, roofs, closed landfills, disused industrial sites, and worked-out surface mines. Field size can remain below thresholds for breeding of most grassland bird species. Of course, any areas selected for solar development must not themselves support important biodiversity (as has been shown for some brownfields in Europe (Hunter 2014, Cox and Rodway-Dyer 2023).

Conclusions

The challenge before all parties involved in siting large solar projects in New York is to proactively find sites that are near electric transmission lines, have gentle topography, lack substantial trees and forests, lack large grassland fields suitable for obligate grassland birds, and do not compete with biodiversity support values. The WCGIBA does not meet the biodiversity requirement, and this need does not seem to be accorded reasonable priority by the state regulatory agencies. The NYSDEC (no date), in its Strategy for Grassland Bird Habitat Management and Conservation for 2022-2027, stated "This document is the strategic plan for implementing priority actions for creating, managing, and maintaining grassland bird habitat within New York State and guiding management of grassland habitat on WMAs that are determined to be part of a Grassland Bird Conservation Center (GBCC)."

We have reconstructed the known and potential biodiversity, especially species of conservation concern, at and near the proposed Fort Edward Solar site, based on publicly available information (see References Cited and other sources throughout the text of the present report). We believe the applicant and the agencies are concealing critical biodiversity information to expedite approval of the solar project. It is our opinion, as biologists with more than 60 years of collective experience studying rare wildlife and plants, that this case requires public discussion of rare species information, and that little of this information is actually sensitive enough to merit concealment (presumably) in the name of protecting Endangered and Threatened bird species. A solar PV facility will alter habitat for a minimum of 25 years (approximately the useful life of current-generation solar panels), and it is likely the alteration will become permanent when the first cohort of panels ages out and is replaced by new panels or other equipment for capturing solar energy. Preserving other nearby grassland at the ratio of 1 unit of solar arrays to 0.4 unit of mitigation area does not compensate for the loss of 567 acres of grassland bird habitat; it simply results in the loss of 567 acres of upland meadow and agricultural habitats. NYSDEC (no date) states: "All grasslands greater than 25 acres within WMAs located inside a GBCC [Grassland Bird Conservation Center] will be managed following the BMPs for grassland birds… Only those WMAs within GBCCs will be required to meet the goals above, though all fields greater than 25 acres should be managed in accordance with the grassland bird BMPs" The proximity of the proposed solar site directly contradicts the DEC's grassland bird conservation BMPS by disrupting the continuity of habitats in and around the DEC WMA, by its proximity to the WMA on three sides. In addition to the problem just mentioned, it appears that the parcel Boralex proposes to preserve by means of conservation easement is already under conservation easement unrelated to the Fort Edward Solar project. Since the proposed mitigation site is already protected with a conservation easement, we believe that using it as a mitigation site fails to protect or produce any new habitat.

Brunette et al. (2013) recommended that solar energy be regarded as a *commons* rather than a *commodity* to facilitate reduction of the adverse impacts of capturing that energy. The Washington County Grasslands are a commons producing ecosystem benefits, including energy and wildlife, for all to use and enjoy within limits. An open public discussion of all the data and various options, including alternative sites, is needed for the Washington County Grasslands.

Missing Data and Recommended Studies

We strongly recommend the following biological studies of at least the southern portion of the IBA to include the proposed solar development parcels and nearby areas. These studies should be conducted prior to permitting the Fort Edward Solar proposal or any other major development or management project at this location. Surveys and assessments should be performed by independent biologists with appropriate experience, as stated by Smallwood et al. (1999).

Search for carbonate (limestone etc.) outcrops or bedrock beneath shallow soils that might support alvar or other rare calcicolous vegetation and flora. The silty clay soil itself may be calcareous enough to support calcicoles.

A thorough survey of stream fishes. This survey should be conducted at a time of warm season low flows using an appropriate combination of electrofishing and seining (and possibly other techniques depending on the instream habitats).

A thorough survey for rare plants through at least one entire growing season, including groups that require expert species identification such as the sedges and grasses.

Surveys for rare herpetofauna (amphibians and reptiles) and rare mammals using appropriate techniques at appropriate seasons. This should include surveys of temporary pools ("vernal pools," "intermittent pools") for breeding amphibians.

Surveys of temporary pools for uncommon and rare invertebrates and invertebrate diversity, especially clam shrimps and fairy shrimps (Schmidt and Kiviat 2007, Schmidt et al. 2018, 2024).

An analysis of the Washington County Grasslands habitats and biota in relation to the potential effects of constructing and operating a commercial scale solar facility. This analysis should integrate all data, published and unpublished, collected at the IBA with findings of the international research on solar facility – wildlife interactions. Because the solar project area would be ecologically altered permanently (even with restoration after the 25-plus year life of the panels), these detailed investigations are crucial for stewardship of the biological resources.

About the Preparers and Hudsonia

Erik Kiviat holds a PhD in ecology and has been certified as a Professional Wetland Scientist (PWS) for three decades. He has studied biodiversity and land use in eastern New York for 57 years, including studies of solar energy sites for developers, municipalities, and nonprofit organizations. Erik is especially interested in the relationships of habitat (ecosystem) to the biota and human culture. He has a solar array at home, and he is Executive Director of Hudsonia. Erik's résumé is at https://www.hudsonia.org/team

Andrew Leonardi has a Master of Science degree in ecology. He has conducted flora surveys, habitat mapping, wetland delineation, and other studies of development sites and nature reserves including solar, wind, and battery energy storage sites in New York, Pennsylvania, Maine, and Connecticut. Andrew is a staff Botanist at Hudsonia.

Hudsonia is a non-advocacy, public interest, nonprofit, ecological research and education institute located in the Hudson Valley. Founded 1981, Hudsonia performs research and synthesis studies and prepares information for training and advising environmental professionals at public and private entities. In 2018, Hudsonia performed biodiversity studies for the developers of the 100 MW Flint Mine Solar facility in the Greene County Grasslands, New York, and assisted in planning mitigation measures for the project.

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Appendix 1. Fish Species of Greatest Conservation Need or Potential Conservation Need documented in or near the proposed solar facility site in the Washington County Grasslands. Additional fish SGCN have been found farther north in the Important Bird Area. Compiled from Smith (1985) and Carlson et al. (2016).

American eel	*Anguilla rostrata*
Longnose sucker	*Catostomus catostomus*
Summer sucker	*Catostomus commersonii*
Unknown sucker variant	*Catostomus commersonii* var.
Finescale dace	*Chrosomus neogaeus*
Lake chub	*Couesius plumbeus*
Satinfin shiner	*Cyprinella analostana*
Bridle shiner	*Notropis bifrenatus*
Blacknose shiner	*Notropis heterolepis*
Brook trout (wild)	*Salvelinus fontinalis*