Species Status Assessment

Common Name: Horned lark **Date Updated:** March 2025

Scientific Name: *Eremophila alpestris* **Updated By:** Abigail Valachovic

Class: Aves

Family: Alaudidae

Species Synopsis *(a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):*

Two races of Horned lark occur in New York. The nominate *alpestris* is highly migratory, breeding in Ontario and Quebec, and on islands in the Gulf of St. Lawrence; it winters in large numbers in New York. The race *practicola* breeds in New York and is at least partially sedentary.

A bird of open agricultural lands, the Horned lark breeds on unplowed fields early in the year, often raising and fledging young before those fields are planted in the spring. The North American distribution has shifted in response to habitat availability, with populations in the shortgrass prairies west of the Mississippi River expanding eastward and southward during the late 1800s as land was cleared for agriculture. Breeding was first confirmed in New York (Buffalo) in 1875 (Bull 1974).

Populations are now declining in the east—including in New York—with the loss of open agricultural lands for breeding. Declines were first documented in the Northeast in the 1940s. Breeding Bird Survey data for the eastern United States show a short-term decline of 0.9% per year from 1999 to 2009 and a long-term decline of 2.9% per year from 1966 to 2009. The second Breeding Bird Atlas in New York showed a 37% decline in occupancy from 1980-85 to 2000-05.

I. Status

a. Current legal protected Status

i. **Federal:** Not Listed **Candidate:** No

ii. **New York:** Special Concern: SGCN

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S3S4B **Tracked by NYNHP?:** On watch list

Other Ranks:

New York 2025 SGCN status: Species of Greatest Conservation Need
NY Natural Heritage Program Watch List
COSEWIC – Endangered
IUCN Red List Category: Least concern
Northeast Regional SGCN: Not listed

Status Discussion:

The Horned lark is a locally common breeder in agricultural areas of New York, absent at higher elevations. It is ranked as Vulnerable in New York, Connecticut, and New Jersey.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN ?
North America	Yes	Declining	Unknown	BBS 1966-2022 trend		(blank)
Northeastern US	Yes	Declining	Declining	BBS 1966-2022 trend		(blank)
New York	Yes	Declining	Declining	BBS 1966-2022 trend	SC	Yes
Connecticut	Yes	Declining	Unknown	Unknown	T	Yes
Massachusetts	Yes	Declining	Declining	BBS 1966-2022 trend	S3B,S4N	No
New Jersey	Yes	Declining	Declining	BBS 1966-2022 trend	T	Yes
Pennsylvania	Yes	Declining	Unknown	BBS 1966-2022 trend	S4B,S4N, S3M	No
Vermont	Yes	Unknown	Unknown	BBS 1966-2022 not credible trend	S2B,S5N	No
Ontario	Yes	Declining	Unknown	BBS 1966-2022 trend	S4	No
Quebec	Yes	Unknown	Unknown	BBS 1966-2022 not credible trend	S3B	No

Column options
Present?: Yes; No; Unknown; No data; (blank) or Choose an Item
Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item
SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York *(specify any monitoring activities or regular surveys that are conducted in New York):*

New York's Landowner Incentive Program (LIP) monitors grassland birds at eight Grassland Focus Areas in the state. Horned lark is one of the focal species in point counts that are conducted annually. Surveys are conducted in June, however, and might not document the presence of this early breeder.

Trends Discussion *(insert map of North American/regional distribution and status):*

Recently, BBS data for the United States showed a significant 1.97% decline from 1996-2019, and a population increase by 0.34% in New York. In North America, this species has undergone a large, significant decline over the last 50 years (70% decline between 1966 and 2015 based on the North American Breeding Bird Survey [Sauer et al. 2017], or 65% decline between 1970 and 2014 based on Partners in Flight. Recent trends suggest a significant decline of 22.9% over the last three generations in North America (Sauer et al. 2017). Therefore, the global population is assessed as being in decline. In New York, the cumulative change in estimated relative abundance from 2012 through 2022 of Horned larks during the breeding season has decreased by 40.2% with confidence intervals of –22.2% to –56.4%.

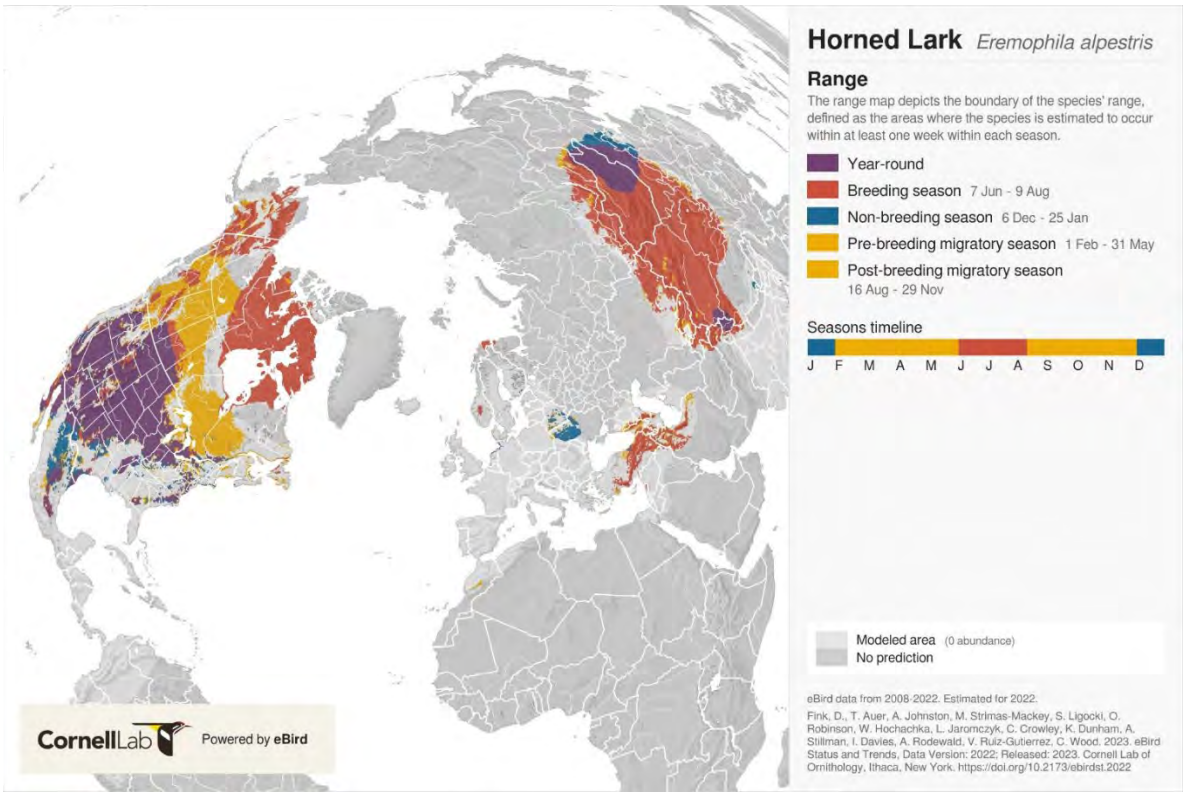

Figure 1. Horned lark distribution in North America (eBird).

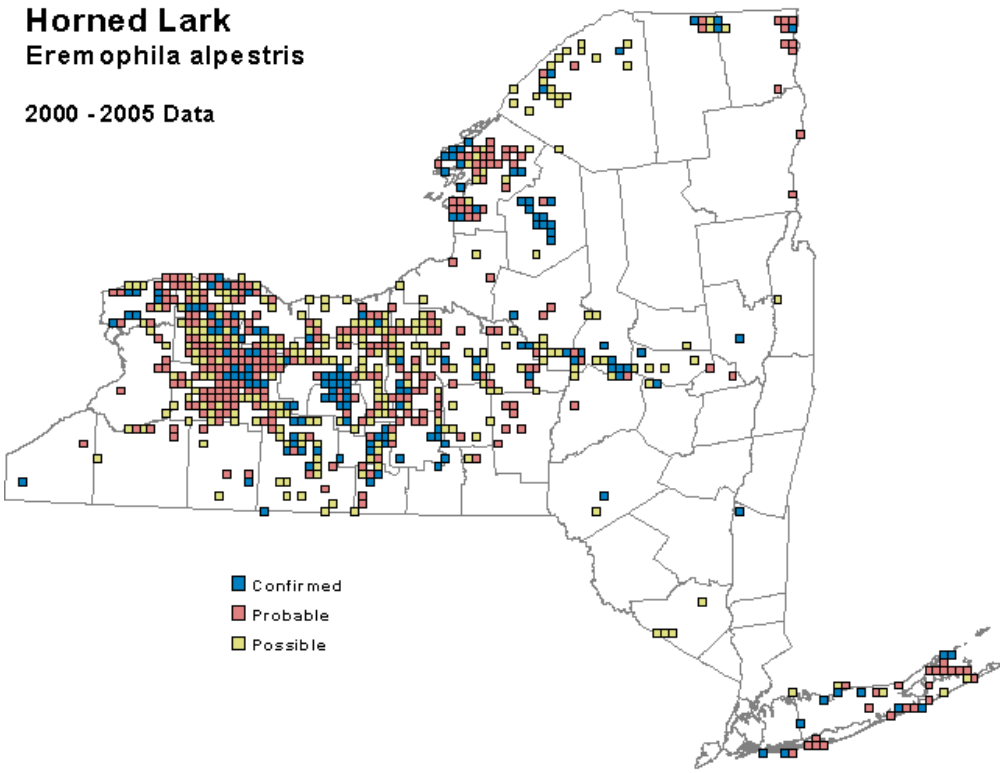

Figure 2. Horned lark occurrence in New York State during the second Breeding Bird Atlas (McGowan and Corwin 2008).

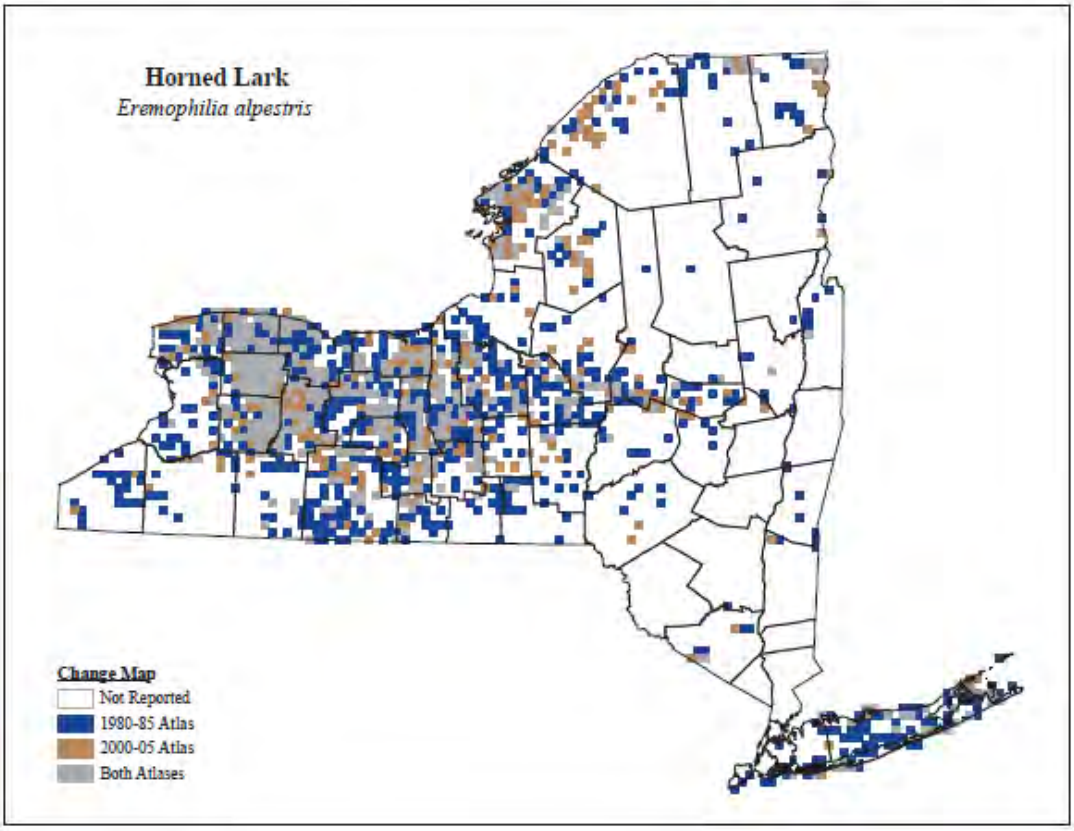

Figure 3. Change in Horned lark occurrence in New York State between the first Breeding Bird Atlas and the second Breeding Bird Atlas (McGowan and Corwin 2008).

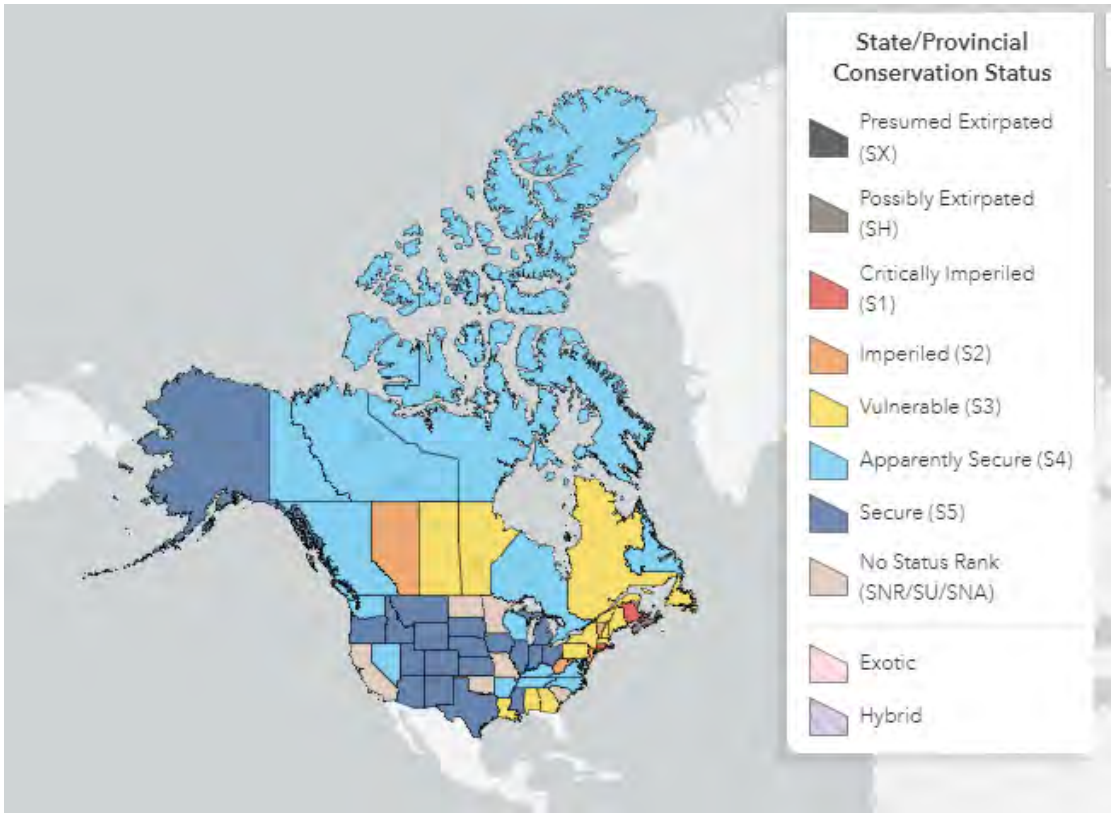

Figure 4. Conservation status of the Horned lark in North America (NatureServe 2016).

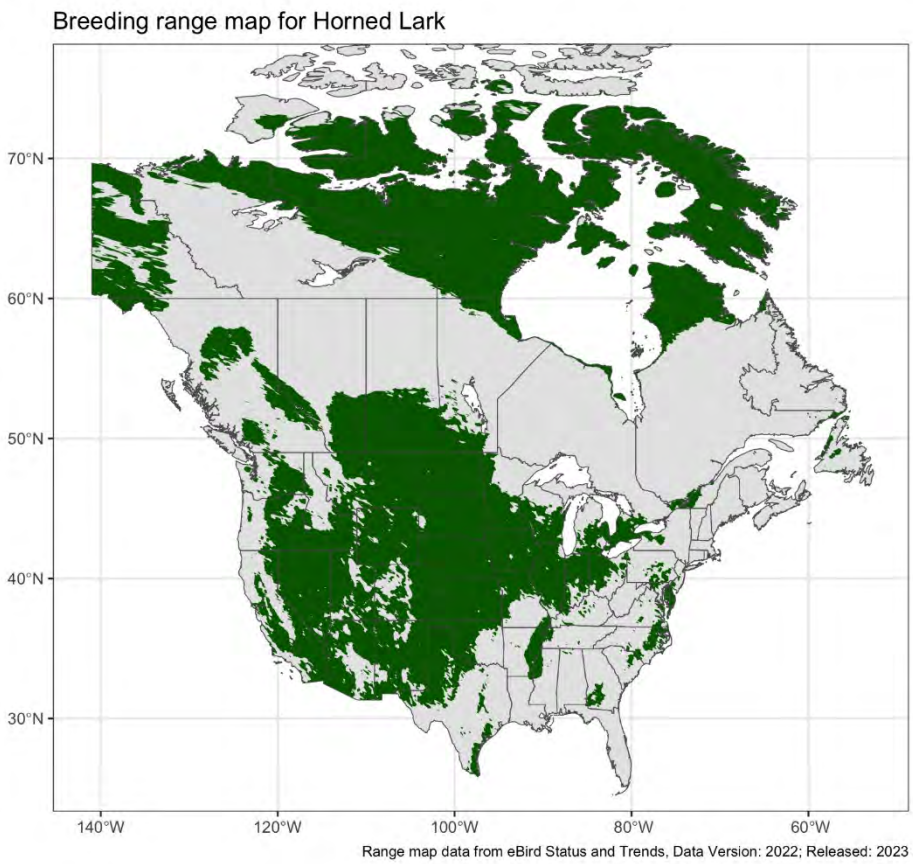

Figure 5: Breeding range for horned lark (eBird).

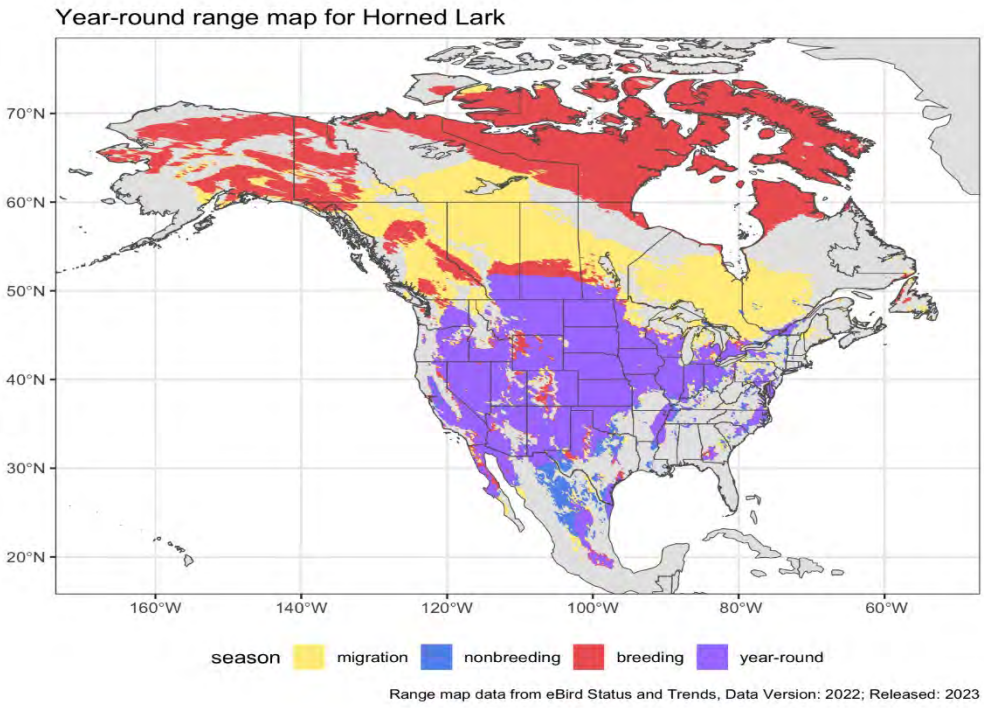

Figure 6: Full (year-round) range for horned lark (eBird).

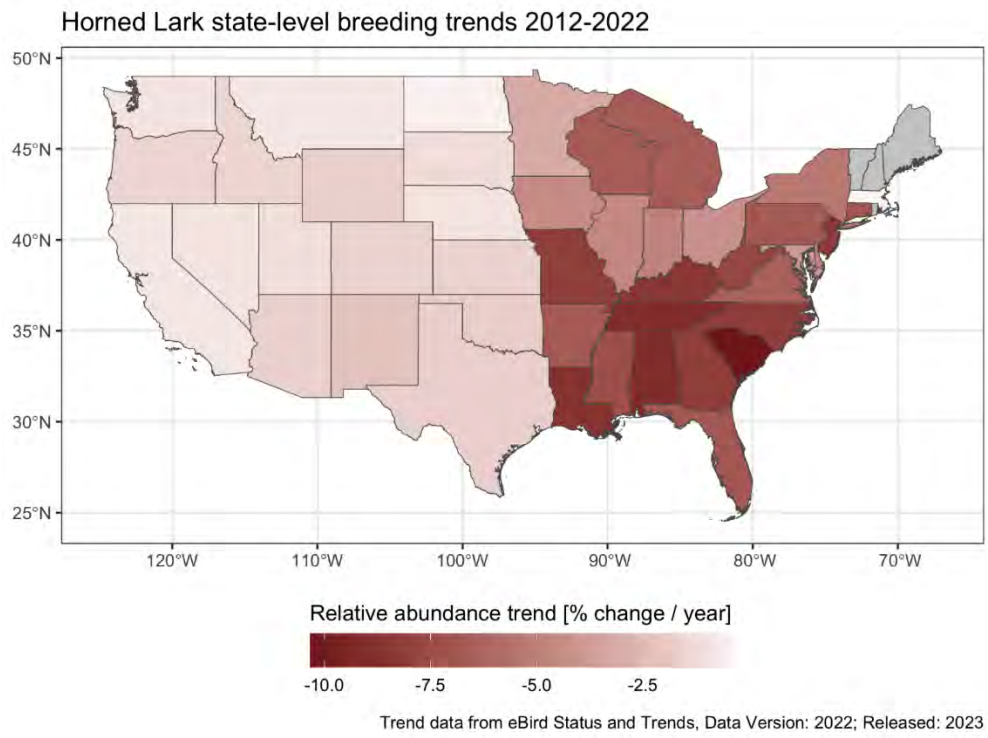

Figure 7: Trends, by state, for horned lark (eBird).

III. New York Rarity *(provide map, numbers, and percent of state occupied)*

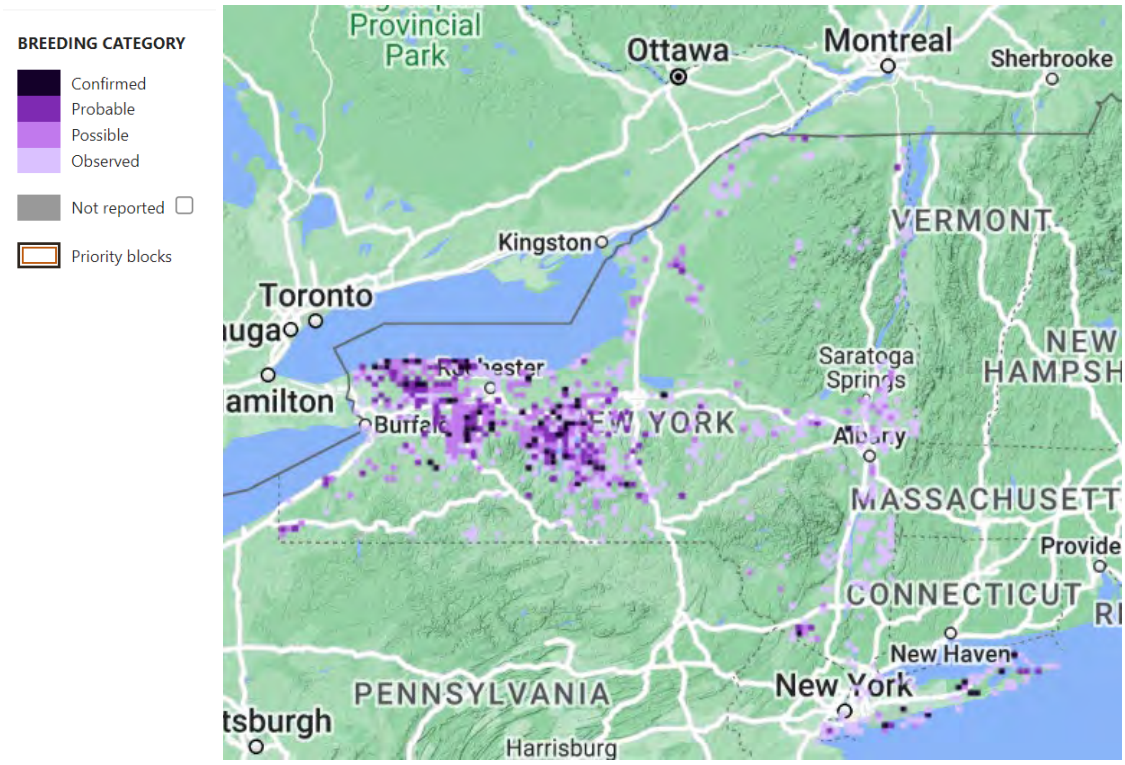

Figure 8. Breeding Bird Atlas 3 records of horned lark in New York (BBA-eBird).

Details of historic and current occurrence:

Bull (1974) stated that breeding occurred in virtually every county and described the historic movement of Horned lark into New York: the first nest was found near Buffalo in 1875; a nest was confirmed the following year in Rochester and as far east as the Black River region near Lowville, Lewis County; by 1879 young birds were collected in Long Island City in Queens County; breeding was confirmed in Albany County in 1881 and in the Adirondacks (Jay, Essex County) by 1900.

The first Breeding Bird Atlas (BBA) (1980-85) documented occupancy in 1105 blocks, 20.7% of the survey blocks statewide (Andrle and Carroll 1988). The second BBA (2000-05) documented occupancy in 698 blocks, 13.1% of the survey blocks statewide (McGowan and Corwin 2008).

The third BBA (2020-25) is currently underway and utilizes a different number and layout of survey blocks across New York, making direct comparison with the first two Atlases difficult. There were 5,333 blocks in the first and second BBAs, and there are 5,710 blocks in the current BBA, of which 1,815 are considered priority blocks. To date, horned lark has been documented in 453 priority blocks, 11.1% of all priority blocks statewide during the third BBA (NY BBA III Overview, 2024).

New York's Contribution to Species North American Range:

Based on eBird data, 0.01 percent of the population breeds in New York, while 0.13 percent of the non-breeding population occurs in New York. Among all states with breeding populations, New York ranks 37 of 37.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	

Column options
Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item
Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type *(from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):*

NatureServe broad habitat types: Alpine, Grassland/herbaceous, Cropland/hedgerow, Desert, Tundra, Playa/salt flat

1. Cultivated Crops
2. Urban and Recreational Grasses
3. Pasture/Hay
4. Native Barrens and Savanna
5. Maritime Dunes
6. Great Lakes Dune and Swale

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
Yes	Yes	Declining	Since 1950s

Column options

Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item
Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

Horned larks prefer the least vegetated of open lands for nesting; sparse vegetation and exposed soil are characteristic of nesting areas. Open country - agricultural areas, golf courses, airports, grassy fields, parks. Nests are located on the ground. Pickwell (1931) described the horned lark habitat in New York to include old meadows, plowed fields, pastures, potato and cabbage fields, racetrack grounds, golf courses, sheep pastures, and sandy barrens. Bull (1974) included sand dunes with beach grass as a breeding habitat. Larks will continue to occupy active pastures and fields planted with corn, beans, and potatoes well into mid-summer (Smith 2008).

Grassland, tundra, sandy regions, areas with scattered low shrubs, desert playas, grazed pastures, stubble fields, open cultivated areas, and rarely open areas in forest (AOU 1983). Nests in hollow on ground often next to grass tuft or clod of earth or manure.

IUCN habitat description: In North America, Horned Lark is widely distributed across most open habitats from sea-level up to 4,000 m. In the Andes, the subspecies peregrina uses short-grass pastureland and bare fields to at least 3,100 m. In North America, it breeds from mid-February in southern USA and from mid-May in the Canadian Arctic. The female builds the nest in an excavated cavity or natural depression on the ground, which is filled with woven plant material, lined with feathers or other fine material and has stones, bark, clods of earth, animal dung and other materials placed around it. The nest is usually positioned to reduce wind flow across it to as little as a tenth of ambient wind speed and to maximize shade. Clutches consist of one to eight eggs, but mostly two to five, although clutch size increases with latitude. Horned Lark feeds on a wide range of invertebrates in summer and plant material in winter. Nestlings are fed almost entirely with invertebrates. The species is migratory or partially migratory in the north and mostly resident or an altitudinal migrant in the south. Across the Holarctic Region, subspecies in the far north are wholly migratory, with much or all of breeding range abandoned in winter. In the south of the range, Horned Lark is an altitudinal migrant (Donald and de Juana 2014).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	Yes	No	Yes	Yes	(blank)

Column options
First 5 fields: Yes; No; Unknown; (blank) or Choose an item
Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion *(include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):*

The horned lark is the earliest nesting, native non-raptor bird species in New York State with nesting reported as early as late February. Nests are constructed on the ground with the site selected by the female. The nest is typically in a small depression and is made of grasses, roots, and hair. It is often lined by small by pebbles on its outer rim. Incubation is done entirely by the female and begins after the last egg is laid.

Breeding density 1.3-1.5 individuals/ha in shadscale habitat in eastern Nevada (Medin 1990). Territory size varies with habitat and population density; ranges from means of 3.5 ha in higher latitude heath (Cannings and Threlfall 1981) and 1.6 ha in the agricultural Midwest (Beason and Franks 1974), to a range of 0.3-14 ha in Colorado shortgrass prairie (Boyd 1976).

The Horned lark is thought to breed in its first year, as do most small passerines; adults breed yearly (Beason 1995). In most locations, at least two and possibly more successful clutches are produced per year (Beason 1970). No long-term studies of a color-marked populations exist, so data on lifetime success or between-year variation of individual reproductive success for this species is not available. The oldest banded Horned lark was captured near Pueblo, CO, seven years after it was banded as an adult at the same location, making it at least eight years old (Klimkiewicz and Futcher 1989).
Major causes of mortality are predation and human activities, especially agricultural operations. Data is not available on dispersal of young from natal sites. Birds that successfully reproduced are known to have returned to the same or nearby territories the next year (Beason 1970).

VI. Threats *(from NY 2015 SWAP or newly described):*

Since the mid-1940s, the eastward expansion of grassland birds has reversed in northeastern U.S. and southern Ontario as agricultural lands have been abandoned, reverting to deciduous forest (Robbins et al. 1986, Hussell 1987). Sibley (1988) noted that declines had resulted from the replacement of grain crops by corn and alfalfa, despite the use of corn fields for breeding noted by other authors.

Declines in some areas have been attributed to a decrease in hayfield area, earlier and more frequent hay-cropping, and a shift from timothy and clover to alfalfa; earlier, agricultural practices that converted wooded land to open land resulted in an increase in range (Bollinger et al. 1990, Bollinger and Gavin 1992). In New York, primary disturbance to nesting is hay-cropping; 100% of nests with eggs and young nestlings affected by mowing were abandoned or destroyed, but proportion of young lost declined with age of nestlings (Bollinger et al. 1990). A threat to the grasslands in New York is a failure to address the viability of dairy farming, especially smaller family farms (NYSDEC 2005). Fire-dependent pine barren type communities also support grassland species. Fire suppression can make them less suitable.

A study led by a Canadian toxicologist identified acutely toxic pesticides as the most likely leading cause of the widespread decline in grassland bird numbers in the United States. Overall insecticide use, and change in permanent pasture and rangeland, concluded that lethal pesticides were nearly four times more likely to be associated with population declines than the next most likely contributor, changes in cropped pasture (Mineau and Whiteside 2013).

In addition to the threat of pesticides used in agricultural fields and other habitats, Horned larks are frequent victims of collisions, particularly at wind turbines and airports. The main factors influencing the future viability of the streaked horned lark include ongoing and sustained habitat loss, continued land management activities and related effects, recreation, and the synergistic effects of climate change and small population size.

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	-	(blank)	(blank)	(blank)	(blank)	(blank)
2. Agriculture & Aquaculture	2.1 Annual & Perennial Non-Timber Crops	2.1.1 Annual cropping systems (field crops)	(blank)	(blank)	(blank)	(blank)	(blank)
4. Transportation & Service Corridors	4.4 Flight Paths	-	(blank)	(blank)	(blank)	(blank)	(blank)
9. Pollution	9.3 Agricultural & Forestry Effluents	-	(blank)	(blank)	(blank)	(blank)	(blank)
7. Natural System Modifications	7.3 Other Ecosystem Modifications	-	(blank)	(blank)	(blank)	(blank)	(blank)
3. Energy Production & Mining	3.3 Renewable Energy	3.3.4 Solar farms	(blank)	(blank)	(blank)	(blank)	(blank)
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	-	(blank)	(blank)	(blank)	(blank)	(blank)
11. Climate Change	11.3 Changes in Temperature Regimes	11.3.1 Heat waves	(blank)	(blank)	(blank)	(blank)	(blank)

Table 1. Threats for Horned lark.

Are there regulatory mechanisms that protect the species or its habitat in New York?

Yes: ✓ **No:** _____ **Unknown:**_____

If yes, describe mechanism and whether adequate to protect species/habitat:

Horned lark is protected under the Migratory Bird Treaty Act of 1918.

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

The NYSDEC's Strategy for Grassland Bird Conservation Best Management Practices (BMPs) for should be used to guide habitat management on grassland habitat or habitat to be converted into grassland. The management goal of these BMPs is to maintain the open, grassy conditions necessary for successful breeding by grassland birds and to avoid disturbance to nesting birds. Techniques may include seeding, mowing, and removal of trees and shrubs including invasive species. Typically, land should be managed for a minimum of 5 years to begin showing benefits for grassland birds. These BMPs form the basis for specific 5-year Site Management Plans for landowners selected to receive technical and financial assistance through LIP (NYSDEC 2022-2027).

Some general recommendations:

- Target management for grassland bird species known to be in the vicinity and consider the needs of both breeding and wintering grassland bird species.
- Consider the surrounding landscape when making management decisions.
- Conduct baseline grassland bird surveys on newly acquired fields or fields targeted for management changes to determine which species are present.
- Increase field size by hedgerow removal, removing trees, etc. to benefit species that require large, open fields.
- Control invasive plant species (glossy buckthorn, pale and black swallowwort, Canada thistle, Phragmites, etc.) to improve habitat quality.
- When developing grassland planting or habitat restoration projects, consider a variety of factors including the targeted grassland bird species, pollinators, seed mix (warm versus cool season grasses, forbs, wildflower mixes, grass height and density), timing of planting, existing site conditions, and vegetation removal techniques (including herbicide and intensive disking).
- Utilize mowing, haying, burning, and grazing for maintaining grassland habitat, after evaluating the appropriateness of these methods relative to site conditions and management objectives. Burning cool season grasses is not advisable in most situations in New York.

Conservation actions following IUCN taxonomy are categorized in the table below.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.1 Manage plants	Mechanical, biological, and chemical management (ie invasive grassland species)
A.1 Direct Habitat Management	A.1.1.2.1 Planting	Cool and warm season grass restoration/planting
B.3 Outreach	B.3.1.3 Targeted Communication	Educate agricultural/private landowners on grassland management
B.4 Law Enforcement and Prosecution	B.4.2 Prosecution and conviction	Enforce policies, guidelines, permits, and regulations for migratory birds
C.6 Design and Plan Conservation	C.6.2 Conserve specific land or seascapes	Land acquisition and/or easement
C.6 Design and Plan Conservation	C.6.5 Conservation Planning	Develop a conservation, management, or restoration plan for protected private lands or private landowner
C.8 Research and Monitoring	C.8.1 Basic research and status monitoring	Monitoring threats (ie renewable energy) and population demographics in the field

Table 2. Recommended conservation actions for horned lark

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Last revision	March 11, 2025 (Abigail Valachovic)