2025 Vermont Eastern Meadowlark Monitoring Project

Eastern Meadowlark (juvenile) © Coleen Lawlor (CC-BY-NC via iNaturalist)

Annual Report to

Vermont Fish & Wildlife Department

Submitted by Kevin Tolan

VERMONT CENTER FOR ECOSTUDIES
Uniting People and Science for Conservation

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Introduction and Background

Eastern Meadowlark (*Sturnella magna*) is a migratory blackbird (family Icteridae) with a range that extends from northern South America into southern Canada. Eastern Meadowlark is listed as federally Threatened in Canada, Threatened in Vermont and New Hampshire, and considered a Species of Greatest Conservation Need in Maine, Massachusetts, and New York. They likely became widespread and numerous in Vermont during the severe agriculturally-driven deforestation of the 19th century, and have rapidly declined since the middle of the 20th century, sharing the same primary threats as most other grassland bird species: habitat loss and agricultural intensification (Hill et al. 2014; LaBarr et al. 2014).

Eastern Meadowlark are partial migrants: some individual birds may remain on the same territory year-round, while other birds may make short- (100s of kilometers) or long-distance (>1000 km) seasonal movements between their breeding and nonbreeding grounds (Hill and Renfrew 2019). GPS-tracked adult males from Vermont overwintered on Long Island and in the Mid-Atlantic region (A. Scarpignato unpub. data), though individuals have been observed overwintering in Vermont during three Christmas Bird Counts since 2010 (National Audubon Society 2025). Adults of both sexes exhibit a high level of site fidelity, with individuals generally returning to the same breeding locations yearly (Jaster et al. 2022).

Like other species of grassland ground-nesting bird, Eastern Meadowlarks are area-sensitive, with the likelihood of site occupancy increasing with patch size (Vickery et al. 1994). The minimum patch size is generally considered to be 15 ac, with a pair of Eastern Meadowlark holding a territory of 6-8 ac (Jones and Vickery 1997). In Vermont, nests are typically located in areas with few obstructions of the horizon with a mean landscape openness of at least 79.5º (Keyel et al. 2013).

Species-specific survey efforts for Eastern Meadowlarks began in 2021 with the informal Meadowlark Blitz, an effort to rally birders to document previously unreported individuals that was coordinated by the Vermont Center for Ecostudies. Formal monitoring began upon Eastern Meadowlark being designated as a Vermont State Threatened species in 2022.

Methods

Surveys were conducted at sites known to be occupied by Eastern Meadowlark in previous years, as well as opportunistically during normal birding activities and where observations had been reported to eBird (ebird.org, Sullivan et al. 2009) between March and August, generally during the hours of peak Eastern Meadowlark activity (sunrise through 9am) when wind and precipitation were light and unlikely to impair detectability. Due to a variety of topography and access limitations, both stationary counts and transects were utilized, while supplemental observations were also reported opportunistically. Observational data was emailed to the coordinator and/or entered to eBird and shared with the group account “grasslandbirds”.

Occupied sites, defined as those with Eastern Meadowlark present for at least two consecutive months between May and July or those with evidence of successful breeding (ie. fledglings or adults carrying food or fecal sacs are observed), were delineated based on the locations of adult individuals, field-based observations, and satellite imagery. Three sites managed under a regime that facilitates Eastern Meadowlark breeding that were occupied for the past several years were

also assumed to have been occupied despite only one mid-season survey occurring. A breeding pair was assumed to be present when only one individual (the male) was observed singing.

Summary and Results

The statewide population of Eastern Meadowlark is estimated to be 92 adult individuals across 38 sites based off 209 observations between March and August (Figure 1a) from 47 individual observers, a decline from the 2024 population estimate of 95 individuals (Table 1). Between 2024 and 2025, four previously uninhabited sites were gained while six previously occupied sites were lost (Figure 1b). Changes in land use were responsible for the loss of at least two sites that were occupied in 2024 which were plowed and replanted with non-grasses prior to the spring of 2025, rendering them unsuitable breeding habitat for Eastern Meadowlark. In the absence land uses changes, invasive plants appear to be driving local population declines at several sites.

The vegetation at a subset of sites was surveyed in 2024 as part of a graduate thesis, and the level of inundation by invasive vegetation varied greatly between occupied fields (Figure 2). Field A [20 ha, one breeding pair] has been cut in July every year for at least the past decade and is at the early stage of invasion by non-graminoids. By comparison, Field C [15 ha, one breeding pair] has been cut relatively late in the season (if at all) since at least 2020, coinciding with a rapid increase in forbs and decline from three breeding Eastern Meadowlark pairs in 2022 to one pair in 2025. These two fields highlight the continued threat posed by invasive plants at breeding sites, including occupied sites that are formally protected from development. A management regime that limits the growth of invasive plants in hayfields while simultaneously providing Eastern Meadowlark time to fledge young should be developed and implemented to ensure sites remain as suitable habitat.

Four sites are located on government-owned land: Missisquoi National Wildlife Refuge and Eagle Point Wildlife Management Area were each occupied by at least two breeding pairs, while Franklin County and Edward F. Knapp State Airports each supported one breeding pair. Twelve sites are on parcels with easements that are held by Vermont Land Trust (n = 10, 38% of all sites), Upper Valley Land Trust (n = 1), and Charlotte Land Trust (n = 1). Nonprofit landowners like the Fund for North Bennington, in addition to businesses such as Meach Cove Farms and Great River Hydro, also manage properties that provide Eastern Meadowlark suitable time to breed. The majority of other occupied sites are owned by individuals or family trusts.

Acknowledgements

This project would not have been possible without contributions from numerous community scientists who spent their mornings surveying hayfields throughout Vermont. Landowner participation and property access was integral to thoroughly documenting numerous Eastern Meadowlark sites. The coordination of this project was funded in part by the Vermont Fish and Wildlife Department.

The following community members volunteered their time and observations this season:

Cat Abbott, Jim Armbruster, Sean Beckett, Charlotte Bill, Michael Blust, Cara Calvelli, Taran Catania, Kenneth Copenhaver, Nate Dansereau, Beth Deimling, Marvin Elliott, Susan Elliott, Jon D. Erickson, Julie Filiberti, Bernard Foy, Emily Fraser, Rebecca Giroux, Sharon

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Citations

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Figures and Tables

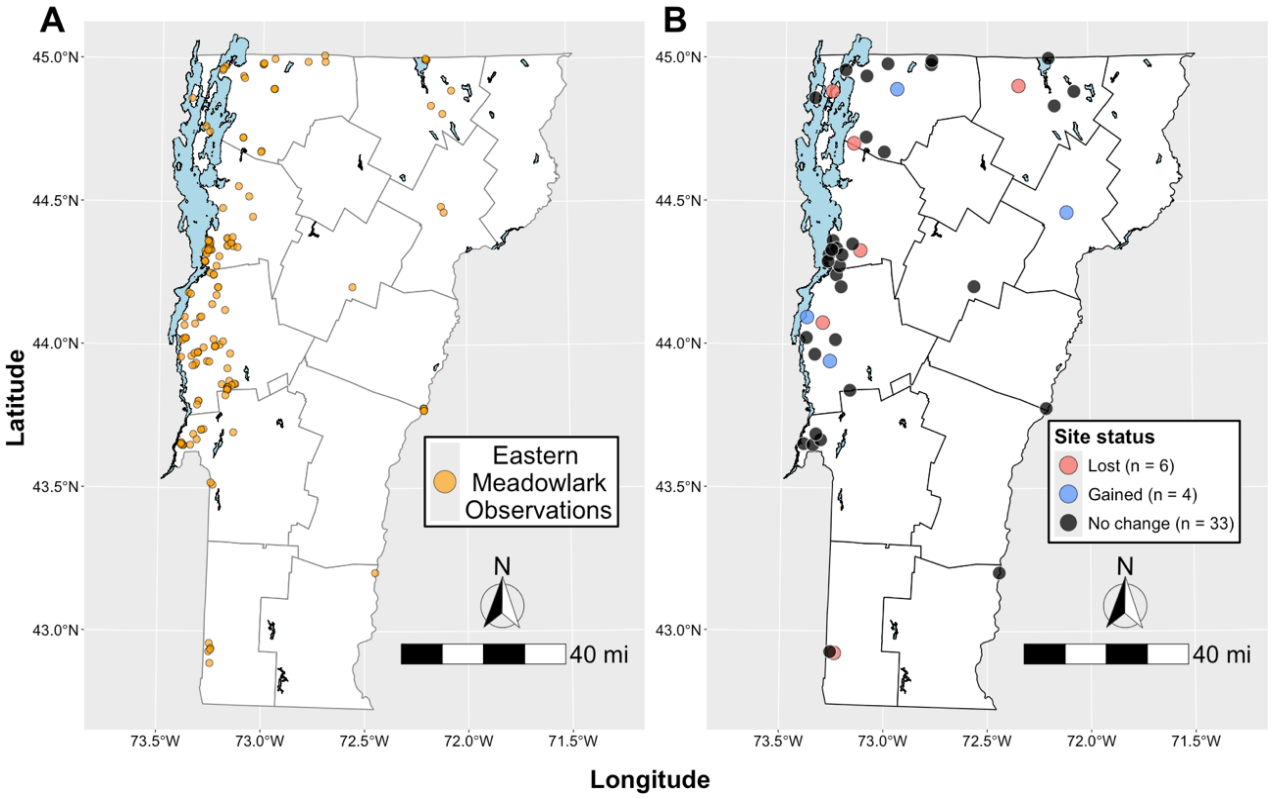

Figure 1. A: Eastern Meadowlark observations reported to the Vermont Eastern Meadowlark Monitoring Project in 2025. **B**: Known Eastern Meadowlark sites gained, lost, and maintained (No change) in Vermont between 2024 and 2025.

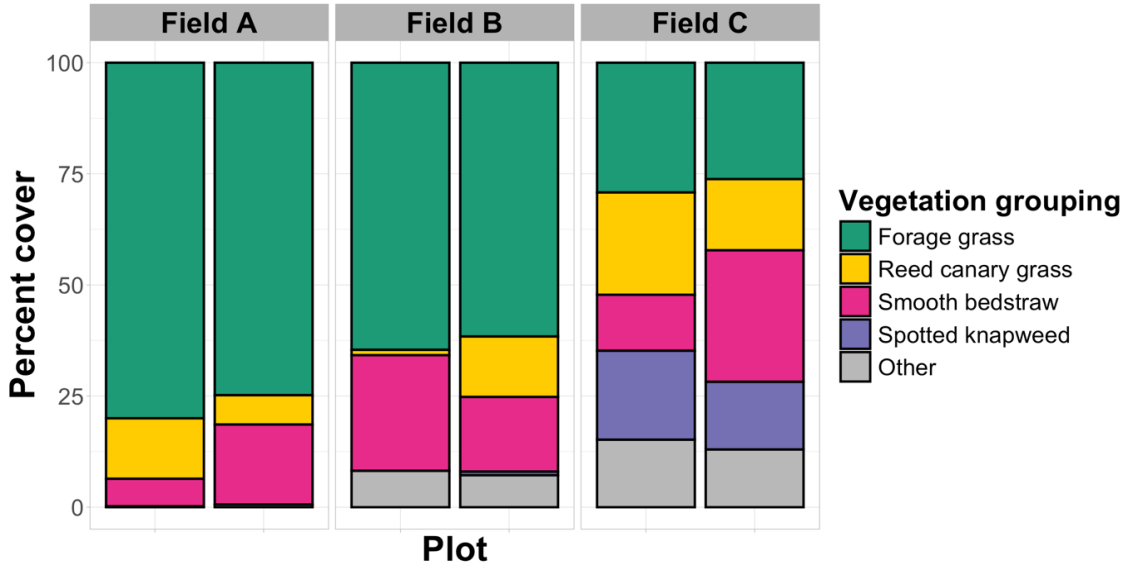

Figure 2. The percent vegetation cover of six 1 ha plots from three occupied Eastern Meadowlark sites in Vermont, 2024. Cover was calculated from 500 point samples across ten transects. "Forage grass" includes graminoid species except reed canary grass (*Phalaris arundinacea*); species groupings include reed canary grass, smooth bedstraw (*Galium mollugo*), and spotted knapweed (*Centaurea stoebe*).

Table 1. The statewide population estimate, and percent change from the previous year, of individual adult Eastern Meadowlark breeding in Vermont, as well as the total number of occupied sites.

Year	2022	2023	2024	2025
Population Estimate	108	102	95	92
Population Change from Previous Year	NA	-5.6%	-6.9%	-3.2%
# Occupied Sites	40	42	40	38