2025 EASTERN LOGGERHEAD SHRIKE RECOVERY PROGRAM SUMMARY REPORT

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EXECUTIVE SUMMARY

2025 continued to be a **building year** for the Eastern Loggerhead Shrike (LOSH) Recovery Program. Though WPC's lead biologist was away on leave for the year, measures were put in place early to allow the program to function beyond mere maintenance. Overcoming the staffing changes not only at WPC but also in lead positions at key partner facilities, continuity was maintained in the program's execution and the changes even allowed for the revisiting of some aspects.

Wild population metrics were low this year, highlighting the need for maximizing release numbers to support wild birds. Thus, this year, the conservation-breeding and release was the main focus for building. Captive breeding facilities were largely successful. In-person meetings at breeding facilities allowed for a greater level of communication and information-sharing with the program coordinator, both increasing standardization and optimization between partners. While our newer partner facilities did not have breeding success this year, fall transfers of proven pairs to those facilities were completed in an attempt to spread breeding success to new facilities and alleviate pre-pairing stressors on the birds.

The long-term project goals remain the same as previous years: to release 100 captive-bred juveniles per year and to aid in reestablishing a stable and viable LOSH population in Ontario. Project goals for 2025 included 60 conservation-reared young released and 20 breeding pairs identified and monitored in the wild, using the conservation tools listed in the table below. The results of the Species Conservation Plan completed in 2024 began to be implemented in 2025 (retaining young based on maternal DNA lineages, optimizing captive pairing strategies through a pairing center, planning future expansions to increase holding capacity). For 2026, we hope to re-introduce wild nestling banding into our protocols and replace Lotek radiotags with newly-designed Cellular Tracking Technologies (CTT) tags in attempts to increase our knowledge of the wild LOSH population, and better understand migratory patterns and impacts on the return rates of the released birds.

WILD POPULATION

Monitoring

Ten pairs of Loggerhead Shrike (LOSH) were confirmed in Eastern Canada this season: 3 in Carden and 7 in Napanee (**Fig. 1**). By conservative estimates, **8 unique single** LOSH were observed in eastern Canada this year: 1 in Carden; 2 in Napanee; 1 in Almonte; 1 in Morpeth; 1 in Thunder Bay; 2 in Quebec. This year saw a massive decrease in LOSH counts compared to 2024, with pairs decreasing from 18 to 10, and singles decreasing from 15 to 8. Given the current conservative estimate of adult LOSH in Ontario, the LOSH population appears to have approximately halved since last year. This is the lowest total LOSH count recorded since monitoring began in 1991.

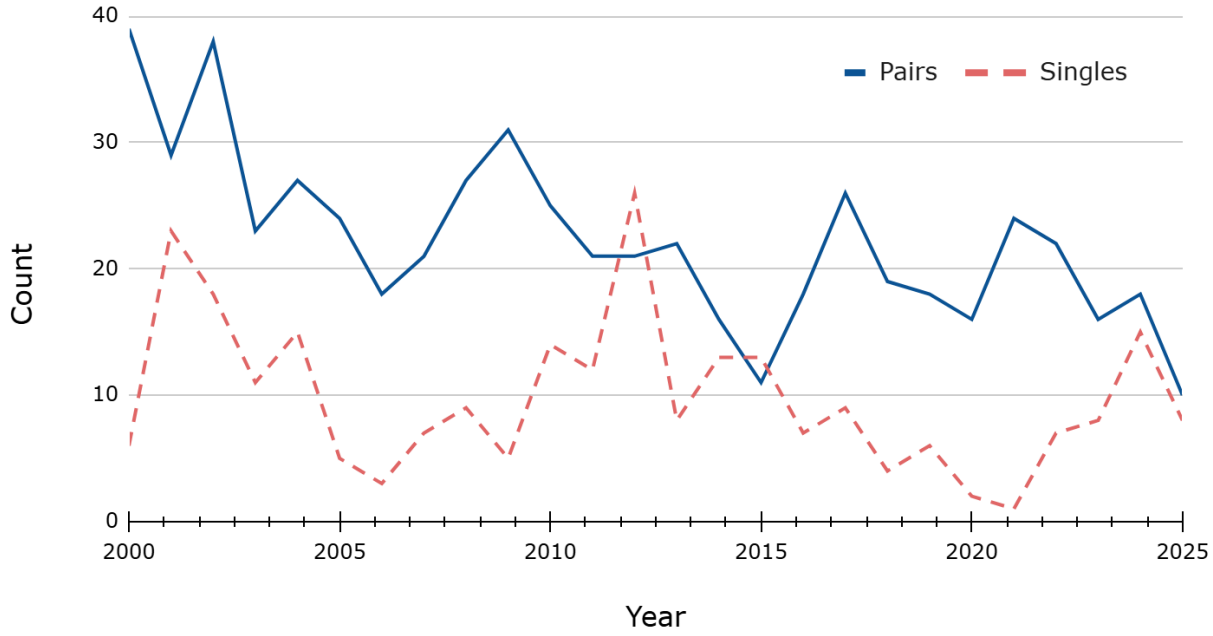

Figure 1. Number of LOSH pairs and single birds in eastern Canada

While the LOSH population was small, LOSH pairs were mostly successful in fledging young. In Napanee, all but 1 of the pairs successfully fledged young (86%), and 1 pair successfully fledged a second brood as well. The pair which didn't fledge young were not seen together after their first nest-building attempt was abandoned in early May. In Carden, only 1 of 3 pairs was confirmed to have successfully fledged offspring (33%). The other 2 pairs did not display consistent breeding behaviour or hold clear territory, and were also observed infrequently. It remains unknown if the pairs nested elsewhere.

Twenty LOSH were confirmed to have fledged this year: 4 in Carden and 16 in Napanee. An average of 2.5 offspring were fledged per nest. As is the case each year, this is likely a conservative underestimate. The average number of offspring per nest this year was slightly lower than 2024's average of 2.69; however, an average of 2.5 fledglings per nest is comparable to previous years. Of the 20 confirmed fledglings, 1 fledgling was confirmed to be the offspring of at least one conservation-bred parent (5%). This family group was discovered at the fledgling stage and only one fledgling was seen, though the likelihood is that more fledglings existed from this nest.

Using conservative counts of confirmed pairs and single birds, the wild adult population of Loggerhead Shrikes in eastern Canada in 2025 was **28 adult birds**.

Returning captive-bred birds

Two conservation-bred LOSH were confirmed to have returned to Ontario breeding grounds this year: 1 in Napanee and 1 in Carden. They represent 7.1% of the adult LOSH population in eastern Canada. The conservation-bred adult which returned to Napanee was a part of a pair with an unknown partner, discovered only after it had successfully fledged its offspring. The shrike, originally banded in Carden in 2024, was seen on numerous occasions hunting with and feeding one fledgling. The

conservation-bred adult which returned to Carden was released in Napanee in 2024. It seemingly did not hold territory and had no known nests. Staff were able to confirm its band combination on a visit when the bird was seen alone. It was observed as part of a pair by one of WPC's survey volunteers in mid-May, but staff were unable to confirm the presence of a second LOSH on the site and soon lost track of the banded LOSH as well.

Trapping and banding

Seven wild LOSH were trapped and banded this year: six in Napanee and one in Carden. The six Napanee birds were adults and the one trapped in Carden was an independent hatch-year. Of those trapped in Napanee, five were confirmed as part of breeding pairs, and one was assumed to be the male of a pair who abandoned at the nest building stage. Regular behaviour was observed on all territories the day after trapping activities. Following trapping, 75% (12/16) of the adult population in Napanee was confirmed banded. Only 14.3% (1/7) of the observed adult LOSH population in Carden was confirmed banded. In total across the adult population in eastern Canada (28 individuals), 46% were confirmed banded, 18% remained unbanded, and 36% had unknown band status.

CAPTIVE POPULATION

Captive breeding and release

Thirty-four original pairs and 16 re-pairs were given the opportunity to rear young across partner facilities, and **produced 54 fledglings** that survived to release or retention (**Fig. 2**). Forty-seven of these young were released (24 in Carden, and 23 in Napanee), and 7 were retained to rebalance losses sustained in the off-season, fill retention spaces to capacity and serve to mix genetics between captive birds in Canada and the US.

Figure 2. **Captive LOSH pairings, young surviving to end of season, and young released**

Banding and Radio Tags

Fifty-five conservation-bred juvenile shrikes received stainless steel bands this season (47 released young, 6 retained young, 2 died pre-release/retention). Most released birds that received colour bands were given a combination that included a silver band over a red colour band on the left leg to identify them as a 2025 release bird. Fourteen birds were released with radio tags, to be tracked on the Motus network. This represents the greatest number of LOSH WPC has released with radio tags in any given year.

Motus detections and band resightings

To date, two birds radiotagged in 2025 were detected (by sightings reported by the public) after leaving the release sites; one Carden release bird seen on August 31st (one day post-release) in Oshawa at McLauchlin Bay Wildlife Reserve and one Napanee release seen on September 28th in Etobicoke.

Beyond the two confirmed returning captive-bred releases (see **Returning captive-bred birds** above) and the two 2025 radiotagged bird sightings, there were six other banded bird resightings. On March 29, 2025, a 2024HY was spotted in Manassas, Virginia. The other five all occurred during the breeding season in Napanee.

RESEARCH

There are a number of new and ongoing research initiatives involving the Eastern Loggerhead Shrike Recovery Program that are being led by WPC or researchers outside of WPC, but with WPC staff

assisting with planning and data collection. Advancements were made in the following projects this year:

- Identification of wintering grounds and migratory routes
- Expression of migratory urge in captive Loggerhead Shrikes
- Assessing anthelmintic resistance in the captive population
- Retrospective analyses of mortalities and necropsies in captive population
- Genomic tools for species conservation and management
- Egg Fertility
- Phenology and Morphology
- Identity by Descent

The following project remains on the radar, though no progress was made in 2024:

- Diet analysis and food preference study

Publications:

- Sauve D, Charland D, Solecki A, Hudecki J, Wheeler H, Thompson H, Steiner S, Friesen V, Chabot A. 2025. Disentangling the contributions to phenotypic change in conservation breeding: a case study in a breeding program of an endangered migratory songbird. *Animal Conservation*. https://doi.org/10.1111/acv.70004
- Hess, H. 2025. Eastern Loggerhead Shrike recovery efforts in Ontario, 2005-2024. *Ontario Birds*. **43,1**:55-69.

Manuscripts under review and in preparation:

- Tschritter CM, Sauve D, Spero J, Foxx J, Chabot A. A retrospective study of morbidity and mortality in a conservation-breeding population of Eastern Loggerhead Shrike (*Lanius ludovicianus migrans*). In prep.

PROGRAM SUPPORT

WPC is grateful to all supporters of Loggerhead Shrike recovery activities. Funding this year was provided by:

- Nature Canada Work to Grow
- Canada Summer Jobs
- Birds Canada Community Grant and Wasserfall Award (OBBA)
- Kingston Solar LP
- Environment and Climate Change Canada
- Ontario Parks
- Panacea Products
- Private Foundations
- Private donors

In addition, we would like to thank all the landowners, whose continued support and stewardship efforts are essential to recovery efforts.

2026 SUCCESSES

Masters of Wildlife Biology Placement though the University of Guelph

This was the second year collaborating with the University of Guelph's Master of Wildlife Biology (MWB) program to provide internship placements for students in their final semester. The shrike program was able to provide a paid 13-week placement for one student interested in avian husbandry and fieldwork, and was hired for the position in March 2025. An EcoCanada wage subsidy was used to fund this position. The student provided invaluable support to the Area Biologist in Napanee, helping to find nests and complete the monitoring of some complex sites with multiple nesting pairs. The student also aided in the completion of much of the husbandry work, enclosure repair work, and retrofitting of the third enclosure in Napanee which was constructed in the fall of 2023 and required some changes. This collaboration with the University of Guelph remained overwhelmingly positive and all involved were in agreement that this type of placement was very fitting to the Masters of Wildlife Biology program. WPC has already committed to hosting another MWB student in 2026.

NZCBI productivity and large cross-border transfer

76% of the 54 fledglings produced by the conservation breeding program originated at Smithsonian's National Zoo and Conservation Biology Institute (NZCBI). This is a major success for the partner facility, with its largest number of offspring produced (41 fledglings) in a single year since it joined the program in 2011. WPC staff travelled to Virginia to NZCBI in the summer to pick up 40 juvenile LOSH for release (38/40) or retention (2/40) in Ontario. This was possibly the single largest transfer of an endangered bird species across international borders to ever be completed!

Impact on Conservation

The impact of the LOSH Recovery Program is far-reaching, not only in Ontario or with loggerhead shrikes but across at least North America and other North American grassland bird species. In the loggerhead shrike world, WPC's reach spans the entirety of the species' range as a well-known name in shrike conservation. Through the Loggerhead Shrike Working Group, we have maintained notoriety amongst other LOSH researchers as a well-organized effort in Canada and an active research partner. Through constant public interaction, it is known by those in the birding world that if you see a loggerhead shrike, to let WPC know. Through the success and longevity of the conservation-breeding program, WPC is a sought-after employer and respected partner for university research programs. On the ground, WPC has a locally known presence in the loggerhead shrike's habitat, good relationships with landowners, ranchers, naturalists and agencies, and is consulted for its expertise in Ontario's grassland birds.

Through decades of effort, evaluation, modernization and optimization, the LOSH Recovery Program has had a great impact on eastern loggerhead shrike populations and those of other eastern grassland species. To date, we have released approximately 1500 conservation-bred shrikes onto the landscape and have successfully slowed the decline of eastern LOSH populations, stabilizing foothold populations in Carden and Napanee. Through habitat work, advocacy, partnerships and public education, we have helped to protect and restore rare alvar and grassland in Ontario, which benefits

many other bird species –like bobolinks, eastern meadowlarks and grasshopper sparrows– as well as other grassland species.

In 2025, through the hard work of many conservation partners (headed by the Couchiching Conservancy), a major battle was won to protect the future of the Carden Alvar. The solar power company Innergex had prospected many parcels of land around the alvar, including patches with previous LOSH breeding activity as well as areas adjacent to current LOSH territories. After many public forums, Innergex announced at the end of September that it would not be pursuing the solar project.

The following is a statement from the project manager Don Seguin:

“In light of the lack of support from the local community and potential partners, along with input received from various stakeholders regarding potential environmental impacts, we will not be pursuing this project in its current form. We thank you for sharing your concern and advice so that local environmental and global climate protection are well balanced.”