



2024 EASTERN LOGGERHEAD SHRIKE RECOVERY PROGRAM SUMMARY REPORT

Prepared by:

Jane Spero, Lead Biologist
Helmi Hess, Acting Lead Biologist
Annika Wilcox, Research Biologist

March 18, 2025

EXECUTIVE SUMMARY

2024 was a building year for the Loggerhead Shrike (LOSH) Recovery Program. In comparison to 2023, results were much improved across the board: numbers of wild birds doubled or tripled in some metrics, and fair captive facility breeding successes reinvigorated release numbers. While pairs at newer partner breeding facilities were not successful this year, Parc Omega and National Aviary staff were able to assist in conservation release activities at the Napanee field site, providing much welcomed on-the-ground capacity-building to partner staff. The volunteer Adopt-A-Site program was a resounding success this year, with 66 volunteer site surveyors signing up across Ontario. LOSH program staff participated in four outreach events this year and gave six presentations.

The final workshop for a 3-year Eastern Loggerhead Shrike Species Conservation Planning (SCP) process took place in January; this was an international effort with concurrent meetings held at the Toronto Zoo and Nashville Zoo to encompass the full annual cycle for LOSH. Results of this multi-year species conservation planning process have been published in a final Conservation Strategy for the Eastern Loggerhead Shrike and SCP Workshop Report, which is available publicly online and will be used to inform conservation actions for LOSH over the next decade.

WILD POPULATION

Monitoring

Eighteen pairs of Loggerhead Shrike (LOSH) were confirmed in eastern Canada this season: eleven in Napanee, and seven in Carden (Fig. 1). There were no confirmed reports of pairs outside of the two main cores this year. There were, however, 15 single birds confirmed in eastern Canada, 4 of which were in Napanee. The other birds were observed in Grey-Bruce counties, Manitoulin Island, Sturgeon Falls, Prince Edward County, Long Point, Point Pelee/Pelee Island, and Quebec (Montreal, Tadoussac, and Forillon National Park). One single bird was observed in Carden on one occasion

being chased off by a pair of shrikes, however it was not deemed unique as it was transient and may have been part of one of the pairs discovered later in the season.

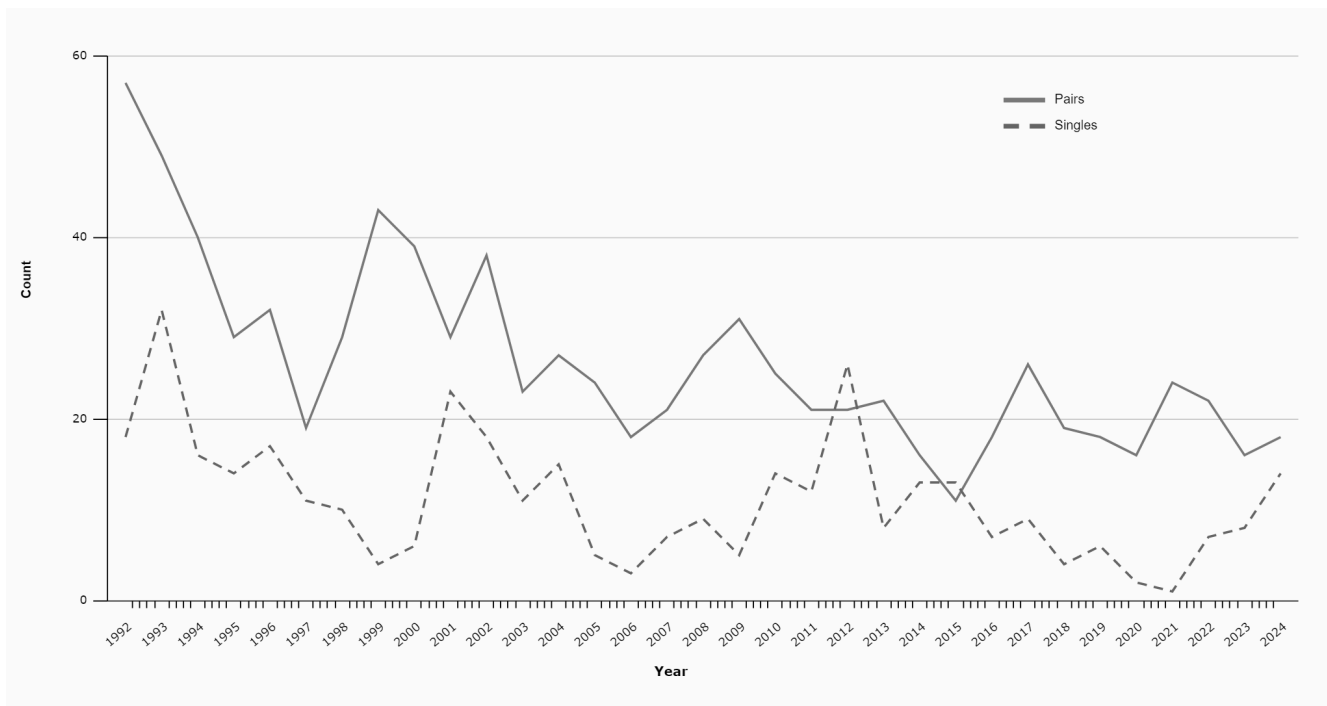


Figure 1. Number of LOSH pairs and single birds in eastern Canada

The pair count in Napanee this year remained the same as 2023 at 11 pairs, while Carden’s count increased to 7 from 5 in 2023. The count in Napanee is likely an underestimate since there was a pair which may have been unique, but could not be confirmed due to a lack of on-site access. Of the 18 confirmed pairs in Ontario, 16 successfully fledged young.

In an exciting contrast to last year, nest success rates were high in both Carden and Napanee, with 88% and 100% of nests respectively fledging young. Only one nest failure was observed in Carden in 2024, which is significantly less than seven observed in 2023. This failure was presumably caused by avian predation, as the nest was empty and both the cup and supporting structures were undisturbed. Ultimately, the breeding pair from this nest did fledge young in their second attempt! Although there were no known nestling mortalities caused by entanglement, plastic baling twine was seen in four of five active checked nests in Napanee.

The 16 successful pairs in Ontario had a total of **43 observed fledglings** (20 in Carden, 23 in Napanee), with an average of 2.69 confirmed fledglings per successful nest. As with most years, the observed fledgling count is likely an underestimate, as some families dispersed quickly after fledging, or nested on sites that were inaccessible to field staff, making detailed post-fledging observations difficult. There were no confirmed double-broods this year, and only one second nest attempt (failed) after a first attempt with nestlings (successful). Other second or third attempts were taken after failed nests with eggs.

In addition to breeding pairs, 12 single birds were confirmed as unique birds in Ontario this year: all 4 of the single birds seen in Napanee, plus 8 reported elsewhere in the province as listed above. Of the four birds in Napanee, two were observed consistently from May through July, one was an unbanded second-year bird on a rigorously monitored site where pairs were already accounted for, and one was observed mid-season on a site that was geographically removed from all other Napanee shrikes. Additional LOSH sightings were reported through Adopt-A-Site volunteers, eBird, Discord’s Ontario Bird Alert group, direct emails to the LOSH Recovery Team, and Facebook birding pages, however to

keep with conservative count methods, many were not deemed unique birds. Reasons for this included brief sightings that were too early in the season to be considered the bird's final location for the breeding season, and sightings that were close enough together for a single bird to move between them within a reasonable timeframe.

Using conservative counts of confirmed pairs and single birds, the wild **adult population** of Loggerhead Shrikes in eastern Canada in 2024 was **51 birds**.

Returning captive-bred birds

Five captive-released birds were confirmed returning to Ontario breeding grounds this year and made up 9.8% of the population of adult shrike in eastern Canada. All but one of these birds were confirmed to be breeding with wild mates and successfully fledged young. The three returning birds in Carden produced at least seven fledglings, and one of the two captive returns in Napanee produced three fledglings (23% of all wild juveniles seen in Ontario). This count is likely an underestimate, as one nest was on a site with no access, one nest was on a site for which access was gained post-fledge meaning there may have been more than the two counted fledglings, and another nest dispersed quickly such that only one fledgling was physically observed.

The Napanee returnee that was not confirmed as part of a breeding pair—a bird that hatched and was released in 2023—was seen only once by Adopt-A-Site volunteers in late April, and not observed again on follow-up surveys. The bird was released from Carden in 2023, thus was possibly not able to successfully hold territory as a young SY male. With that said, this bird cannot be distinguished from a male with 'unknown' band status that was observed only once on a site that was not accessible to staff, thus is not included in the total count of single birds from Napanee. The paired returnee observed in Napanee was a 2021-release bird. This individual was also observed in 2022, 2023 and this year again, all within a 1.5km range with fledglings each year.

Two of the Carden returns were 2022-release birds, both of which were observed for the first time this year. Historically, many birds appear to have a "gap year" as second-year birds, in which they do not return to Ontario the year following their release, so this did not come as a surprise. The third captive-bred return in Carden was a 2019-release bird that was seen breeding on the same site in 2021, 2022, 2023 and this year. This bird has fledged a total of 12 young (4 in 2021, 4 in 2022, 0 in 2023 and 4 in 2024).

Trapping and banding

Four wild LOSH were trapped and banded this year; one in Carden and three in Napanee. All of these birds were adults in breeding pairs. Band combinations were partitioned this year such that Napanee birds received a yellow band above their silver ID band on their right leg, and the Carden bird received a yellow band under the silver band on their left leg. Silver bands on left legs are typically reserved for captive-released birds; this wild individual was given a silver band on its left leg, rather than right, in error. Regular behaviour was observed on all territories the day after trapping activities.

Following all trapping, 37.5% of the observed adult LOSH population across Carden and Napanee was confirmed banded, 55% unbanded, and 7.5% with unknown band status. Band status was not confirmed this year for one individual, which was observed only once on a site in Napanee with no access.

CAPTIVE POPULATION

Captive breeding and release

41 total pairings occurred across partner facilities. 11 of these pairs produced 61 young that survived to release or retention (Fig. 2). 43 of these young were released into the wild: 22 in Carden and 21 in Napanee. 18 young were retained to add to the captive breeding population.

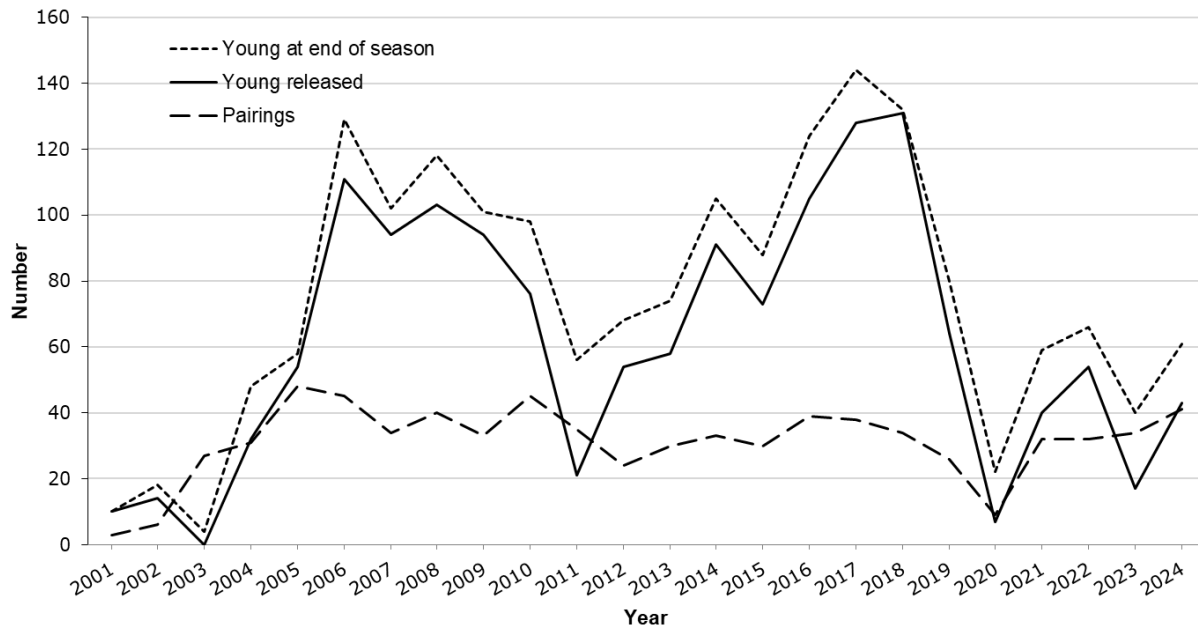


Figure 2. Captive LOSH pairings, young surviving to end of season, and young released

Banding and Radio Tags

Fifty-eight conservation-bred juvenile shrikes received stainless steel bands this season (43 released young, 15 retained young). Most released birds that received colour bands were given a combination that included a silver band over a yellow colour band on the left leg to identify them as a 2024 release bird. Eleven birds were released with radio tags, to be tracked on the Motus network.

Motus detections and band resightings

Eleven birds were released with radio tags on the Motus network, though one of the tagged birds released in Carden was found deceased after ten days following a severe thunderstorm event. Necropsy results did not reveal any significant cause of death. One 2024 HY bird, released in Carden on August 22, has been detected locally so far by a tower at Wilmot Creek, approximately 100 km directly south of the Carden field site, early in fall migration on September 9th. All of the tags applied were new and purchased this year, all with a 10-month battery life.

As with detections received from 2022 tagged birds, the detections received for the five birds tagged and released in 2023 have been few to date. All confirmed detections occurred along the north shore of Lake Ontario early in fall migration at High Park, Bronte Creek Provincial Park, Darlington OPG, Pickering OPG and Toronto Zoo between August 27th and September 9th. These detections came from two different shrikes.

Status of the captive breeding population

As of December 31st, 2024, there were 81 birds in the captive population at partner facilities in both Canada and the U.S. Seventy-eight of these birds are considered breeding stock, two are education/exhibit birds, and one is a non-releasable non-breeding adult (2019HY). The current breeding stock includes: 61 birds that are 5 years or younger (HY 2019-2024), and 17 birds that are 6-10 years old (HY 2012-2017). One of these 2012HY females will be officially retired for 2025 as she did not produce any fertile eggs this year, nor did she successfully foster eggs from another hen. Excluding holdings for education/outreach birds, holding capacity across all project partners heading into 2025 will be 88 birds.

HABITAT STEWARDSHIP

No WPC-led habitat stewardship projects were completed this year due to lack of funding. Landowners remained generally positive and understanding despite receiving news of lack of funding from staff, and a list is in place for patches that will be prioritized for stewardship projects if funding is received in 2025. A three-year application for habitat stewardship funding has been submitted this year; news on its status will be given in spring 2025.

PROGRAM OPPORTUNITIES

This was the first year of breeding for Parc Omega in Montebello, Quebec, and the second breeding year for the National Aviary in Pittsburgh. While neither facility was successful this year, Parc Omega and National Aviary staff were able to assist in conservation release activities at the Napanee field site, providing much-welcomed on-the-ground capacity-building to partner staff. Sharing this element of the program was a full-circle moment for staff from partner breeding facilities, who do not normally get to see the end result of all their hard work caring for breeding pairs. Efforts will be made to involve more staff from partner facilities in the future, as this presents an excellent opportunity to share husbandry knowledge and give partners a better scope of the program.

Granby Zoo (Granby, QC) has been actively participating in captive subcommittee meetings over the course of the year, though no progress has been made on building breeding pods and hosting pairs. Parc Omega staff will assist with onboarding Granby Zoo by providing updated costs on pod construction; this will hopefully take place in 2025.

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

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

- Diet analysis and food preference study

The following manuscripts were published this year:

- Geldhart, E.A., Geldart EA, Howes LA, Wheeler H, Mackenzie SA. 2022. A review of Impacts of Tracking Devices on Birds. North American Bird Bander, 47 (4): Article 1. Available at: <https://digitalcommons.usf.edu/nabb/vol47/iss4/1>
- Steiner J, Winton S, Zajac K, Chabot A, Wheeler H, Giocomo J, Miller P. 2024. Conservation Strategy for the Eastern Loggerhead Shrike (*Lanius ludovicianus migrans*) and Species Conservation Planning Workshop Report. IUCN SSC Conservation Planning Specialist Group.

The following manuscripts were in preparation this year:

- Sauve D, Charland D, Solecki A, Hudecki J, Wheeler H, Thompson H, Steiner S, Friesen V, Chabot A. Disentangling the contributions to phenotypic change in conservation breeding: a case study in a breeding program of an endangered migratory songbird. In review.
- 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.

PUBLIC PRESENTATIONS

The LOSH program was the subject of six public presentations and four events this year. All presentations were well received with excellent feedback from collaborators and those in attendance.

- Ottawa Catholic District School Board (Jan 16): “Saving Endangered Animals in Canada” Guest lecture by Jane Spero, 25 min in duration to a grade 1-2 class of 25.
- Hamilton Naturalists’ Club (Feb 26): Presentation by Helmi Hess, 45 min in duration to an audience of 80. HH was approached by Carden Field Naturalists president to give a presentation in the fall.
- Conversations 4 Conservation at rare Charitable Research Reserve, Cambridge (June 26): Presentation by Helmi Hess, one hour in duration with 40 registrants.
- rare Charitable Research Reserve, Cambridge (July 5): Presentation by HH at rare’s ECO (Every Child Outdoors) camp, 1.5 hours in duration to 25 children aged 5-13 and 4 adults. HH included more interactive components and games this year which were well-received.
- Huronia Clubs Annual Joint Meeting, Carden (Sept 11): Presentation by HH at the Carden Recreation Center, one hour in duration to an audience of 40. Members from Carden Field Naturalists, Nature Barrie, Midland-Penetanguishene Naturalists’ Club and Orillia Naturalists’ Club were in attendance.
- University of Guelph (Oct 22): Guest lecture by Hazel Wheeler to a Master of Wildlife Biology class, 42 students in attendance.

LOSH program staff participated in four events this year:

- Spring Bird Festival, Colonel Sam Smith Park (May 25) – The event was relatively well attended, despite stormy weather. Approximately 200 people interacted with the booth, with Jane Spero and Helmi Hess speaking to over 100 people directly.
- Toronto and Region Conservation Authority Spring Bird Festival, Tommy Thompson Park (May 11) – The event was well attended. Approximately 200 interacted with the booth, with Jane Spero speaking to over 100 people directly.
- Couchiching Conservancy staff site visit (Aug 22) – Nine staff members visited the Carden field site to participate in a shrike release and learn about the LOSH Recovery Program. The event was led by Helmi Hess and was approximately 3 hours in duration. Habitat stewardship plans for Turnbull ranch were also discussed.

- Lakehead University class site visit (Aug 28) – An upper-year Environmental Sustainability Field Class (Instructor: Chase Moser) visited the Carden field site for a tour led by Helmi Hess. The tour took approximately 2 hours, and included observing an AM feeding at a release enclosure, assisting with supplemental feeding, participating in a post-release survey, preparing the PM feed and touring the feed shed. The class was approximately 20 people, and many students expressed interest in applying to field positions in coming years.

The LOSH Recovery Program was mentioned in the following media pieces:

- (WPC Feature) “*Community Unwrapped*: This Estonian-Canadian is working to save an endangered songbird” (Eesti Elu, Jun 28) – Explores Helmi Hess' career as a wildlife recovery biologist and the tales and adventures of her life living in the remote wilderness.
<https://eestielu.ca/community-unwrapped-helmi-hess-life-in-the-wilderness-as-a-wildlife-recovery-biologist/>
- (WPC Feature) “Rebound of loggerhead shrike highlighted at naturalists' forum” (Barrie Today, Sept 19) – Carden Field Naturalists hosted a joint regional meeting with Helmi Hess as the keynote speaker, presenting an update of the LOSH Recovery Program.
<https://www.barrietoday.com/local-news/rebound-of-loggerhead-shrike-highlighted-at-naturalists-forum-9544089>
- (WPC Feature) “And then there were Five: Finalists announced in Kawartha Lakes Bird of the Year contest” (Lindsay Advocate, May 21) – WPC’s LOSH work in the Carden Alvar was highlighted as LOSH were one of the top five candidates for a local bird of the year contest.
<https://lindsayadvocate.ca/and-then-there-were-five/>
- (WPC Mention) “CTV National News: Declining bird population” (CTV News, Oct 9) – Hazel Wheeler was interviewed about declining grassland bird populations in Canada.
<https://www.ctvnews.ca/video/c3008923-ctv-national-news--declining-bird-population>
- (WPC Feature) “In Search of Shrike” (The Napanee Beaver, July 3) – Jane Spero was interviewed about the LOSH population and recovery efforts in Napanee; WPC is mentioned.
<https://www.napaneebeaver.ca/in-search-of-shrike/>
- (WPC Feature) Upcoming: Ontario Birds (Ontario Field Ornithologists) magazine article in December 2024 publication by Helmi Hess

LOSH program staff also facilitated and/or participated in the following outreach opportunities:

- “Career Connections: Recovery Biologist, Helmi Hess” (*rare* Charitable Research Reserve Interview, Jun 5) – In this video, learn all about Helmi Hess's career as a Recovery Biologist with Wildlife Preservation Canada. As a recovery biologist, Helmi focuses on the monitoring and recovery of the Eastern Loggerhead Shrike, which is an endangered species in Canada.
https://www.youtube.com/watch?v=usWazzEJ0Es&t=10s&ab_channel=rareplaces
- Private donor visit (Sept 4) – Two major donors to the LOSH program visited the Carden field site to participate in a shrike release. Hazel Wheeler, Jane Spero, Helmi Hess, Lakesha Smith and Andria Fried were in attendance.
- National Aviary and Parc Omega staff site visit (August 20)- Five staff members visited the Napanee field site to attend a morning release and participate in post-release observations. The event was led by Jane Spero and was approximately an hour in duration. Staff were invigorated by the experience and excited to attend future events.

- Landowner and Parc Omega staff site visit (Aug 16)- One landowner family (mother and two daughters) and one staff member from Parc Omega attended a pre-release check in Napanee led by Jane Spero. The visit was approximately 2 hours in duration and was received very well by attendees.
- Adopt-A-Site Volunteer Orientation (Apr 3) and Zoom Debrief (Nov 7) for 66 registered AAS volunteers from across Ontario (Grey-Bruce, Carden, Napanee, Smiths Falls and Pembroke-Renfrew)

PROGRAM SUPPORT

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

- EcoCanada Science Horizons
- CIGan Clean Tech Wage Subsidy
- The Land Between
- Kingston Solar LP
- 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.