

2019 Eastern Loggerhead Shrike Recovery Program- Summary Report

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Wild Population

Monitoring

Eighteen pairs of Loggerhead Shrike (LOSH) were confirmed in Eastern Canada this season: 11 in Napanee, 5 in Carden, 1 in Smiths Falls, and 1 in Quebec approximately 20 km northeast of the Pembroke-Renfrew core area (Fig. 1). While the number of pairs in Napanee held steady compared to 2018, this was the second successive year that numbers in Carden dropped by approximately one third. Though troubling, it should be noted that the count in Napanee has shown a modest recovery from a low of four pairs in 2015, so persistence of a Carden population may still be possible. It is also worth noting that both Carden and Napanee have a high priority site where birds have nested for the past several years that staff are not able to survey due to a lack of on-site access, so there is a high likelihood that some birds adults went uncounted.

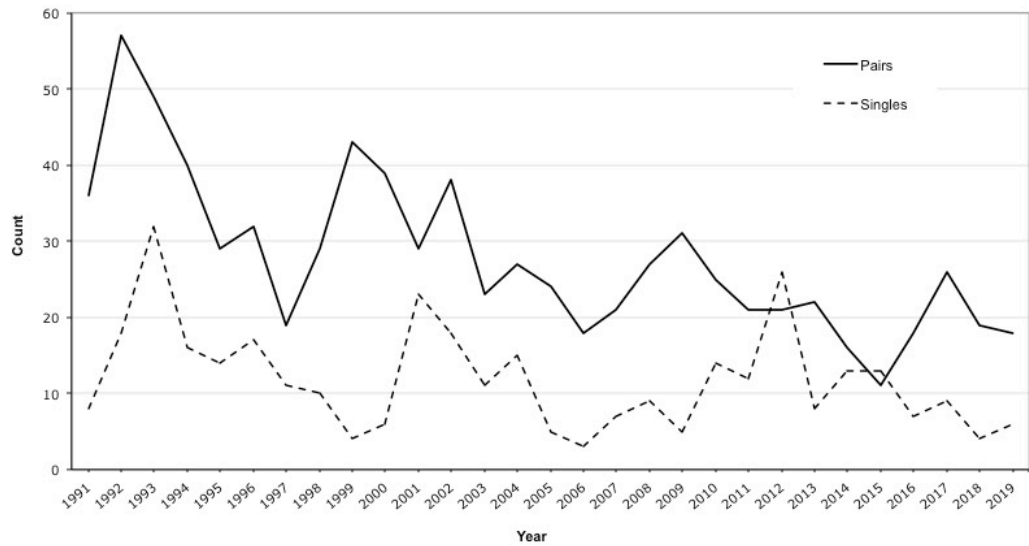


Figure 1. Number of Loggerhead Shrike pairs and single birds in Ontario and Quebec, 1991-2019

The percentage of pairs to fledge young was relatively high in both Napanee (82%) and Carden (80%). **Thirty-four fledglings** were confirmed this year (26 in Napanee, 8 in Carden), which is a significant drop from the 53 seen in 2018, and amounts to an average of only 2.4 fledglings per successful nest. However, this is likely an underestimate, as four nests were only found to be successful after the young had fledged and dispersed, so some fledglings may have gone uncounted.

The breeding outcome of the two isolated pairs in Smiths Falls and Quebec is uncertain as observations were gathered by volunteers or gleaned from eBird. However, it does appear that the nest in Smiths Falls failed at or near the point of fledging, as adults were seen feeding mature nestlings, but no birds were in the area three days later.

In addition to breeding pairs, six single birds were confirmed this year: five in Napanee and one in Carden. Only one of these birds had a band combination that allowed definite identification, so this count was largely determined by timing and location of sightings, so may be an underestimate.

Using conservative counts of confirmed pairs and single birds, the LOSH population in Ontario was **42 adults this year.**

Volunteer Surveys

WPC staff survey efforts continue to be augmented through the Adopt-A-Site (AAS) survey, which uses citizen scientists to survey for LOSH, and a suite of other birds found in similar habitats. Forty-seven volunteers conducted roadside AAS surveys of 125 priority patches across Ontario. Carden and Grey-Bruce continue to have the highest engagement, with 16 volunteers in each core, which surveyed 53 sites in Carden, and 30 sites in Grey-Bruce. Pembroke-Renfrew continues to be a low engagement area, with only a three volunteers.

LOSH were observed by volunteers on four sites in Carden, and one in Napanee. Two of the reports in Carden came in April before field staff were present in the area, so contributed to early-season occupancy data. The remaining observations were all of birds that were already known to field staff. The Napanee observation was of a territory that was already known to staff. Fourteen volunteers used call-playback this year, and though LOSH were seen on two sites where they were used, in both cases birds were found after the playback and no response was noted.

No on-site surveys were conducted this year due to time constraints on the Lead Biologist at the start of the season.

Returning captive-bred birds

Fifteen captive-released birds were confirmed returning to Ontario and Quebec breeding grounds this year. These captive-origin birds made up 36% of the population of adult shrike seen in eastern Canada.

Seven of these birds were observed as part of breeding pairs with wild birds, four paired with other captive-origin birds, and four were singles. Five of the seven pairs that included a wild bird bred successfully, with at least 12 fledglings confirmed (35% of all wild juveniles seen in Ontario); however, this fledgling count may be an underestimate, as one successful nest was confirmed after young had already fledged. Of the remaining two pairs, the outcome of one (in Quebec) was unknown as regular monitoring by WPC staff was not possible, and the second was only seen once by a volunteer, and was assumed to be transient as it was never found by field staff during follow-up. Oddly, this pair was also never found on another site in the vicinity, nor was it found on any other sites in the area.

Seven of the returning birds were confirmed as 2018-releases (5.4% return rate), four as 2017-releases, and one as a 2016-release. Two of the 2017 birds had not been seen in 2018, so the return rate for that cohort is now 5.5% (up from 3.9% in 2018). Though a full band combination was never confirmed for the sole bird that returned to Carden, it was on a territory where a bird banded with SI/RD:DB/OR bred in 2018, so is assumed to be the same individual. The 2016 bird had not been confirmed in Ontario in 2017 or 2018, though a similar partial band combination (YE:OR) was seen in Napanee in 2017; however, considering those to be the same bird is fairly speculative. Counting only those 2016 that we could confidently identify, that cohort now has an 8.6% return rate.

One of the 2018 birds (SI:DG/YE) was caught during spring migration at Long Point Bird Observatory banding station at the tip of Long Point (see *band resightings*).

Trapping and banding

Thirteen wild LOSH were trapped and banded this year, 11 in Napanee and 2 in Carden, including 3 independent hatch-year birds. Additionally, two captive-origin adults were trapped in Napanee, one of which had a missing band replaced, and the other simply measured and released. All trapping in Napanee was led by Amy Chabot, and Hazel Wheeler led trapping in Carden. All newly-caught birds were banded with either SI/LG or LG/SI on right, to indicate wild birds caught in 2019. Regular behaviour was observed at all territories the day after trapping activities.

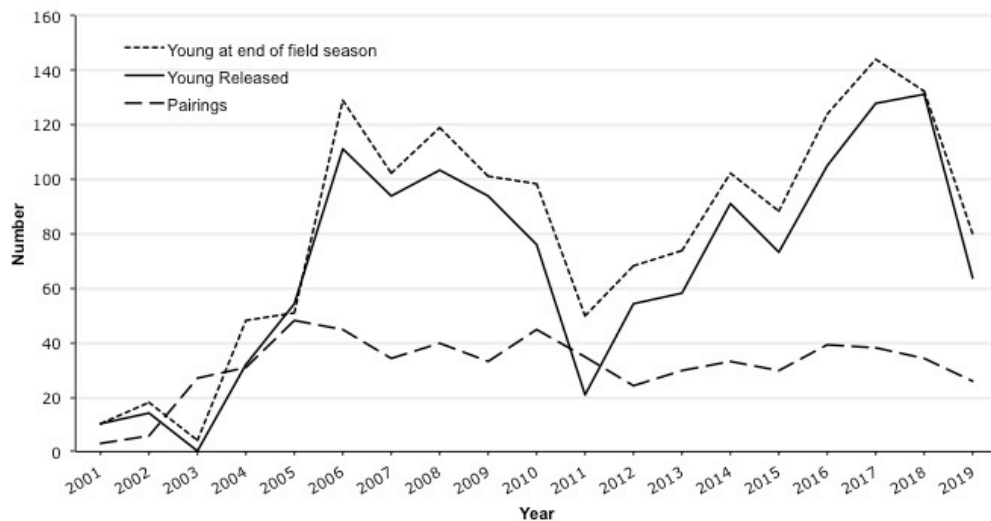
Trapping effort was increased this year in response to the growing proportion of unbanded birds observed, which was impacting the quality of demographic and territory use data collected by field staff. After all trapping activities, only 33% of the wild LOSH population remained unbanded, compared to 52% in 2018. Band status was confirmed for all birds except a transient single seen on two occasions in Carden.

Captive Population

Captive breeding and release

Sixteen pairs produced 80 young that survived to release or retention (Fig. 2). The captive breeding and release program was less successful this year due to the loss of a portion of breeding males in the spring, resulting in fewer breeding pairs producing young. **Sixty-four young** were ultimately released into the wild at our field release sites (40 in Carden, 24 in Napanee), and **sixteen HY birds** were retained to recuperate losses seen in the spring.

Figure 2. Captive LOSH pairings, young surviving to end of season, and young released, 2001-2019



Banding and Radio Tags

Seventy-eight captive juvenile shrikes received stainless steel bands this season. Released birds that received colour-bands were given a combination that included either LG/SI (39 birds) or SI/LG (24 birds) on the left leg to identify them as a 2019 release bird. One captive-bred bird was banded with SI/LG on the right leg because an injury on the left leg prevented use of the regular colour-band scheme. Birds released with radio tags (10 individuals) were banded with only the year combination on their left leg (five released with SI/LG, five with LG/SI). All birds received some sort of temporary colour-marking

(Sharpie) to aid in individual identification while in the release enclosures and during post-release monitoring.

Ten birds were released with radio tags on the Motus network this season (two in Napanee, eight in Carden) using the same nylon-coated elastic cord harness attachment technique used since 2015. Ten additional birds were fitted with radio tags, but three shed their tags pre-release due to poor fitting, three were removed due to abrasions, two were removed as they were non-functioning, and two were removed as the birds' weights had dropped below the 50-gram cut-off for attachment.

Band resightings

One captive-bred LOSH from 2018 was seen during spring migration this year. Interestingly, the first captive-bred bird reported of the season was caught at Long Point Bird Observatory banding station at the tip of Long Point on April 9th. Identification was confirmed through the band number, which was quite helpful as it had shed a dark blue band over the winter. Though this bird seemed to disappear after being captured, but was spotted at the Napanee Release Site towards the end of August. This is the first time that we've had one of our captive-origin birds caught at a banding station during spring migration, though our birds have been seen around Long Point during the falls of 2004 and 2006.

Motus detections

Review of tracking results from 2018 revealed our first confirmed U.S. detections, when a bird released in Carden on August 23, 2018 was picked up on three towers in Pennsylvania on September 15 of that year (Fig. 3). Three other 2018-releases were also detected during fall migration, but only on towers within Ontario. The bird detected in the U.S. and one of those detected in Ontario were hatched at SCBI; the other two birds were hatched at TZ and MRC.

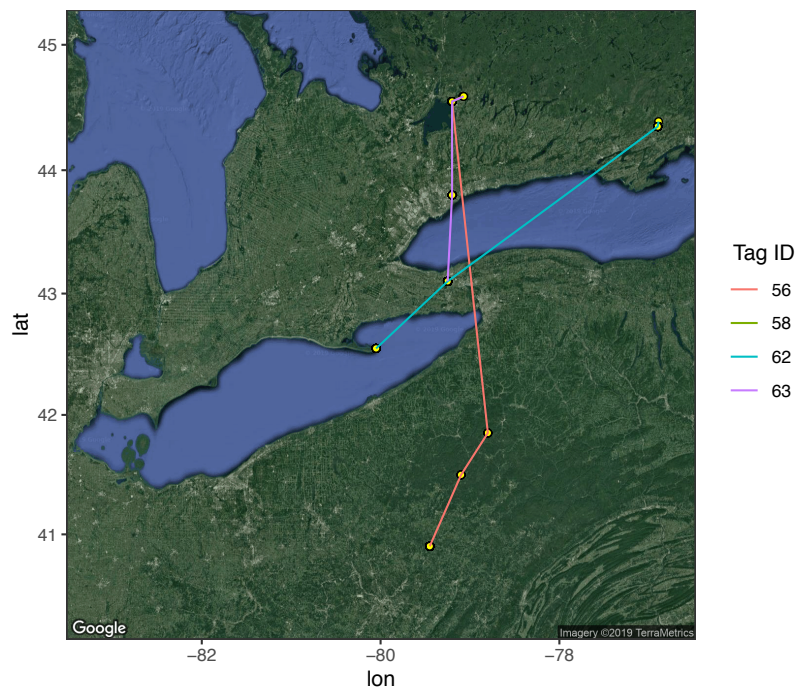


Figure 3. Fall 2018 Motus detections for birds released that year. Tag 56 was released on Aug 23, and detected on three towers in Pennsylvania on Sept 15.

Ten radio-tagged birds were released this year, four of which have already been detected on Motus towers in Ontario. All appeared to head almost directly south to the shore of Lake Ontario, and one bird has some

later detections to the west, including a hit on a tower at the base of Long Point, on Lake Erie. A more thorough examination of detections will be initiated later in the winter, when more data is available. Nineteen new tags were purchased for the program this year by SCBI, three of which have already been deployed. Prior to this purchase, all tags used on captive LOSH had an estimated five-month battery life; however, the tags purchased this year now have a 10-month battery life, which creates the potential for detections on both fall and the subsequent spring migration.

Status of the captive breeding population

As of November 8th, 2019, there were 68 birds in the captive population (including partner facilities in both Canada and the U.S.). Sixty-four of these birds are considered breeding stock, one is a retired bird that has aged out of the breeding population, two are education/exhibit birds, and one is a non-releasable non-breeding HY juvenile, retained from the 2019 breeding season. The current breeding stock includes: 42 birds that are 5 years or younger (HY 2015-2019), 20 birds that are 6-10 years old (HY 2010-2014), and two over 10 years old. Fifteen juveniles were retained this year following a decrease in breeding males from a weasel attack at the Toronto Zoo in early spring. One juvenile was recruited from the wild for the captive breeding population following a nest entanglement that rendered it non-releasable.

Habitat Stewardship

Habitat stewardship project funding is still uncertain for this year; federal monies were not secured, and decisions on provincial funds have not yet been finalized. As such, no stewardship projects have yet been undertaken. Two landowners in the Napanee core have been identified for potential projects, however, and will be contacted once project funding is known.

Research

There are a number of new and ongoing research initiatives involving the Eastern Loggerhead Shrike Recovery Program that are currently being undertaken by graduate and post-graduate students, LOSH Working Group members, and Wildlife Preservation Canada staff. New projects include:

- Expression of migratory urge in captive Loggerhead Shrikes
- Diet and food preference in captive Loggerhead Shrikes
- Presence and effects of parasites on captive breeding success in Loggerhead Shrikes

Ongoing projects include:

- Identification of overwintering grounds and migratory routes
- Genomic tools for species conservation and management
- Species distribution mapping
- Endocrine correlates of fitness in captive-reared Eastern Loggerhead Shrikes
- West Nile virus seroconversion in Loggerhead Shrike after vaccination

With the addition of a new staff member to the LOSH recovery team, manuscripts that have historically been waylaid by higher priority tasks are now being revisited. Several publications have been prioritized for the coming year, which will greatly increase our scientific impact in the larger conservation community.

Public Education and Outreach

Public presentations

The LOSH program was the subject of two public presentations this year: Breeding Coordinator, Jane Hudecki, was a guest speaker at the Hamilton Naturalists Club Bird Study Group on September 16, in Burlington, ON; and Lead Biologist, Hazel Wheeler, was a guest speaker at the Southern Lake Simcoe Field Naturalists club meeting on October 8, in Egypt, ON. Both talks were well-attended, particularly the Hamilton talk, which had approximately 80 people in the audience. Reception was excellent, with both groups expressing high interest in the LOSH program.

Events

LOSH program staff participated in the Partners in Protection event at the Royal Ontario Museum on April 6, along with other WPC staff. This is the second year that WPC has participated in this event, and it remains a fun day with a high level of youth engagement. The location of this event within the ROM made for a lot of foot traffic, with over 1600 people counted moving through the space.

Media

The Our Incredible World series, “Sharing our Habitats”, which includes a section on the LOSH Recovery Program has now been completed. The LOSH Program is included in episode 2: Disappearing Grasslands, and can be viewed here: <https://incredibleworld.ca/2017/sharing-our-habitat-2/soh-series-episode-2/>

The LOSH Recovery Program was also the subject of work by artists Richard Ibgby and Marilou Lemmens entitled “Look, it’s daybreak, dear, time to sing”, that will be exhibited at the Bemis Center for Contemporary Arts in Omaha, Nebraska from Nov 20, 2019 – Feb 15, 2020. This multimedia piece explores points of contact between birds and humans in an effort to expand the meaning of hospitality, care, communication and attentiveness between species. Footage taken at the Carden release site during the 2019 season will be included in a series of videos entitled “The Violence of Care”, which also includes footage from a puffin exhibit at a zoo, and the care of backyard hens. A full description of the work can be found here: <https://www.bemiscenter.org/art/exhibitions/bird-song.html>

The LOSH recovery Program was also mentioned in the following media pieces:

- “This endangered songbird is in a captive breeding program” (Grace Hunter, Cottage Life, Sept 17) – Article about the Recovery Program for which Jane Hudecki was interviewed. <https://cottagelife.com/outdoors/this-endangered-songbird-is-in-a-captive-breeding-program/> [Accessed 12 Nov 2019]
- Wild for Life podcast (ep.7): “Bird curation and conservation with Dr. Kevin Kerr” (Toronto Zoo) – Toronto Zoo podcast series that highlights behind-the-scenes conservation work by the Zoo. Kevin Kerr talks in detail about the LOSH program, and mentions WPC as the coordinating partner. <https://open.spotify.com/episode/5Px667GoQE9AX6S3eFDP9e?si=JjY9aB77T9auvxByl4GfGg> [Accessed 12 Nov 2019]
- Interview with Jane Hudecki on captive breeding by a University of Guelph undergraduate student– recorded 10 Oct 2019, to be included on a publicly-accessible podcast in late fall. The episode was for a Nature Interpretation course assignment that focused on local environmental science research. Jane discussed details of the LOSH program and how to communicate the concept of captive breeding to youth groups.

Program Support

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

- Private foundations
- Private donors
- BluEarth Renewables
- EcoCanada Science Horizons Youth Internship
- Employment and Social Development Canada – Canada Summer Jobs
- Environment and Climate Change Canada
- EcoCanada Student Work-Integrated Learning Co-op Program
- WPC-led fundraising initiatives

In addition, we would like to thank all program volunteers for their generous donation of time to the various aspects of the program, and of course to the landowners, whose continued support and stewardship efforts are essential to recovery efforts.