

2017 Eastern Loggerhead Shrike Recovery Program - Summary Report

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November 13, 2017

Wild Population

Monitoring

Twenty-six pairs of Loggerhead Shrike (LOSH) were confirmed in Ontario this season: 12 in Carden, and 13 in Napanee, and one in Pembroke-Renfrew (Fig. 1). The Carden and Napanee cores also each had one additional site where observations suggest a breeding pair, which would bring the total to 28, though the paucity of observations for these two sites leaves some uncertainty. Regardless, either pair count represents a marked increase over the 18 pairs found in Ontario in 2016, and more than a doubling of the 11 pairs observed in 2015. Using confirmed numbers (25 pairs), Carden saw a 50% increase in number of pairs compared to last year, and Napanee counts increased by 30%.

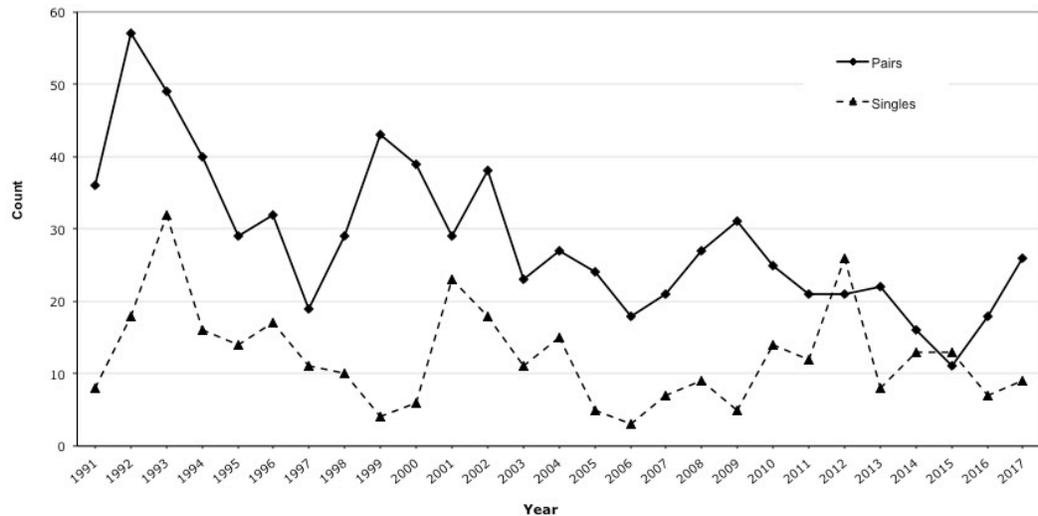


Figure 1. Number of LOSH pairs and single birds in Ontario and Quebec, 1991-2017

Breeding success was high in Napanee this year, with 92% of confirmed pairs fledging young, though in Carden only 67% of pairings were successful. Across Ontario, 80% of confirmed nesting pairs fledged young. There were **57 fledglings** confirmed this year (38 in Napanee, 19 in Carden), which gives a somewhat low average of 2.85 young per successful nest; however, this number is likely an underestimate as accurate fledgling counts were difficult to achieve on several sites where staff could only survey from the roadside, and three breeding territories in Carden were located after young had fledged, so some individuals may have gone unobserved. There were no successful double-clutches this year.

In addition to breeding pairs, there were a handful of single birds, most of which were difficult to confirm as separate individuals as they were seen sporadically and were unbanded. However, three unbanded single birds could be confirmed in Napanee as they held territories for periods of at least two weeks. Three single birds were also confirmed in Carden, two of which were banded, and one unbanded.

Outside of the Carden and Napanee cores, there three sightings of unbanded birds in Grey-Bruce, two in Smiths Falls, and a bird carrying a radio tag seen once in Quebec, which is the first time a LOSH has been reported in Quebec since 2010. A second-year LOSH was also seen on Manitoulin Island on October 15 (reported on eBird), though that individual was unbanded, so nothing can be said of its origin.

Using conservative counts of confirmed pairs and single birds, the LOSH population in eastern Canada was **63 adults** this year.

Volunteer surveys

Thirty-eight volunteers conducted roadside surveys of 158 priority patches across Ontario. Smiths Falls and Grey-Bruce has good volunteer coverage, with 47 and 31 sites surveyed in each respective core, though Pembroke-Renfrew has minimal coverage, with only one volunteer surveying six sites, and no volunteers submitting data for Manitoulin Island. LOSH activity in Pembroke-Renfrew and Manitoulin Island has been admittedly low in recent years, with no LOSH seen in the breeding season in either core since 2012; however, with the sighting of a breeding pair in the Pembroke core, a second-year LOSH in Quebec this past spring, and a late-season second-year LOSH on Manitoulin in October, there is reason to maintain surveys in both of these cores. Therefore, efforts will be made to increase volunteer participation in coming years through targeted recruitment emails to naturalist groups in those areas.

Volunteers reported LOSH on four sites: three in Carden, and one in Napanee. In Carden, two of these reports were confirmed by field staff, and the third was a pair that was never observed by staff during the field season, though review of multiple reported sightings (from AAS volunteers and locals) confirmed this pair in the post-season. The Napanee report was from the first survey window in April, which, since field contracts now start in May, will contribute to the accuracy of LOSH occupancy date for this site.

This season also saw the development an on-site AAS protocol, to augment the standard road-side protocol, that was piloted by a pair of volunteers on one site in the Carden core (part of Carden Alvar Provincial Park), and resulted in the detection of a pair of LOSH that had not yet been found by WPC staff. In this very limited pilot, the protocol could thus be considered successful. A debrief will occur over the winter with the two volunteers who participated in this pilot, to gauge user-friendliness, and identify areas for improvement. A larger rollout is planned for spring 2018, including sites in both Carden and Napanee.

Returning captive-bred birds

Ten captive-released birds were confirmed returning to Ontario breeding grounds, and one additional captive-origin bird was spotted once in Quebec. Ultimately, captive-origin birds made up 17% of the population of adult shrike seen in eastern Canada this year. Eight of the captive-origin birds seen in Carden and Napanee were observed as part of breeding pairs, and the other two were transient singles. Six of the breeding birds paired with wild birds, and one pair was made up solely of captive-bred birds. All of these pairings bred successfully, with 19 fledglings confirmed (33% of all wild juveniles seen in Ontario). Unfortunately, one of these birds was road-killed early in the season, though the remaining adult was able to support the four fledglings from that nest.

Four of these birds were confirmed as 2016-releases (4% return rate); the bird spotted in Quebec was only banded with a metal band on left, which is the practice for radio-tagged birds, so year of origin can not be confirmed. The oldest confirmed captive-origin birds were hatched in 2014, and both were birds originally released with geolocators that were removed in 2015. There may have been a 2012-release bird in Napanee that has been observed breeding in the area in 2014 and 2016, but as only a partial band combination was observed in 2017, this bird could not be distinguished with certainty from numerous 2016-releases that also bore the same colour bands.

Trapping and banding

Five wild LOSH were banded this year, all in Napanee, by Hazel Wheeler and Amy Chabot. Banded birds included both adults from two pairs, and a female from a pair where the male was already banded. Birds were banded with either SI/RD or RD/SI on right, to indicate wild adults caught in 2017. After trapping activities, at least 37% of the wild LOSH population remained unbanded this year.

Captive Population

Captive breeding and release

This was another record-setting year for the captive breeding and release program, with **27 breeding pairs producing 144 young** (Fig. 2). **One hundred and twenty-eight young** were released to the wild (78 in Carden, 50 in Napanee), which is a record for the program (highest release number before this season was in 2006 when 111 young were released). Sixteen young were retained to add to the captive population.

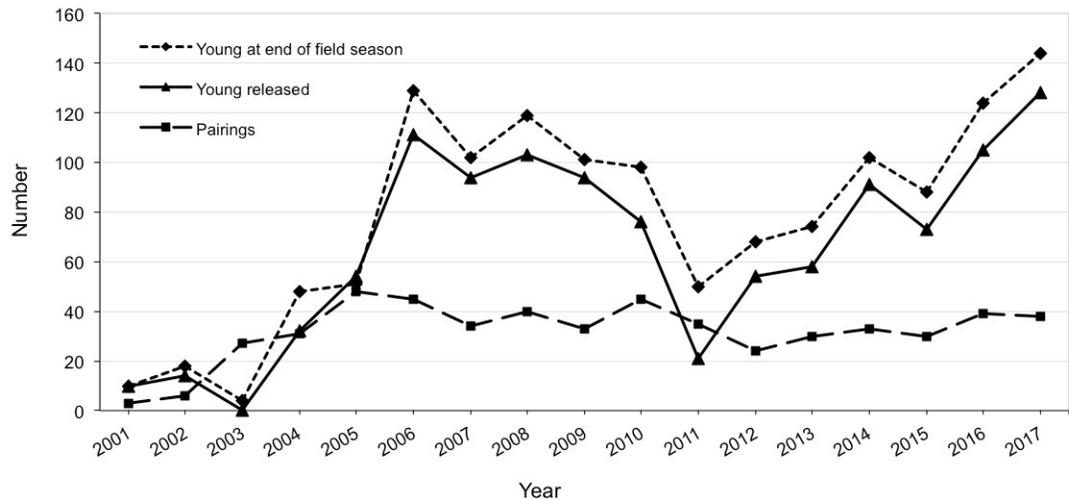


Figure 2. LOSH captive pairings, young surviving to end of season, and young released, 2001-2017

Banding and radio tags

One hundred and fifty-five captive juvenile shrikes received stainless steel bands this season. Released birds that received colour-bands were given a combination that included either SI/RD (63 birds) or RD/SI (48 birds) on the left leg to identify them as a 2017 release bird. One captive-bred bird was banded with SI/RD on the right leg prior to release because an injury on the left leg prevented use of the regular colour band scheme. Birds released with radio tags (16 individuals) received only SI on left because of weight constraints. 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.

Band resightings

Short-distance, pre-migratory dispersal of captive releases was seen by field staff in both Napanee and Carden this year. In Napanee, a bird released on Aug. 9 was seen on Aug. 29 on the territory of a wild LOSH pair approximately 6km to the west of the release site. The juvenile was seen interacting with one of the wild adults, causing the wild bird to alarm call and leave the area. In Carden, two captive-bred juveniles released at the end of July were seen in Carden Alvar Provincial Park, approximately 4km north of the release site, in August. One bird was seen on two occasions, and the other was present on the site for approximately three weeks.

Further afield, two captive released birds were sighted during migration at the end of the summer. One bird, hatched at SCBI and released in Carden on Aug. 25, was seen at the Darlington Nuclear Plant in Bowmanville on Aug. 28. The other bird, seen on Aug. 31 and Sept. 1 in Buffalo, NY, was hatched at TZ and released in Carden on Aug. 5.

Motus detections

Sixteen birds were released with radio tags on the Motus network this season. No detection data have yet been received for radio-tagged birds released this year, but results continue to be compiled from past years.

Tracking results from 2015 (Fig. 3a) and 2016 (Fig. 3b) have revealed two different migratory strategies for our birds, with some individuals heading northeast along the Great Lakes to pass in to the US near Windsor, and

other birds apparently crossing Lake Ontario. Though the network of Motus towers has very dense in southwestern Ontario, there hasn't been much coverage on the south shores of any of the lakes for the past two years, so our birds had essentially entered a large gap in the possible detection zone once they passed in to the US. However, Bird Studies Canada has increased coverage along the south shore of Lake Erie, opposite Long Point, and there are new arrays at the southwestern shore of Lake Erie, and throughout Pennsylvania, so the potential to detect our birds in the US is greatly increased compared to past years.

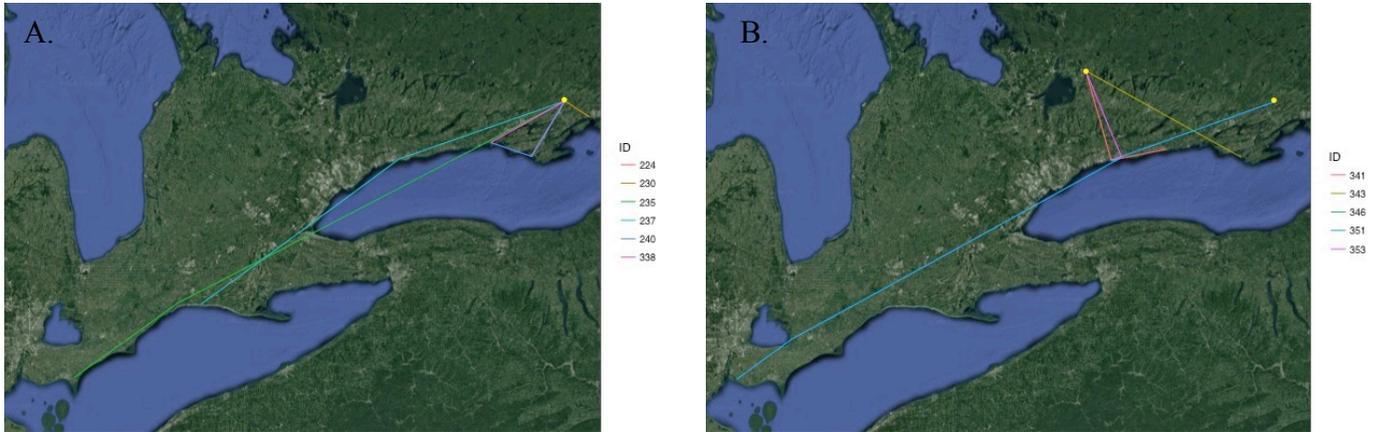


Figure 3. Movement tracks of radio-tagged LOSH in 2015 (A) and 2016 (B), released from the captive breeding program

Status of the captive breeding population

As of November 10, there were 87 birds in the captive population (including partner facilities in both Canada and the US). Seventy-nine of these birds are considered breeding stock, and the other 8 are education/exhibit birds, or have aged out of the breeding population. The current breeding stock includes: 16 HY birds retained from this breeding season, 46 birds that are 5 years or younger (HY 2012-2016), 14 birds that are 6-10 year olds (HY 2007-2011), and 3 over 10 years old.

Habitat Stewardship

One habitat stewardship project has been completed in Napanee so far, and involved repairing a length of cattle fencing on the Wales property in August. This property has been a nesting territory for LOSH in 16 of the last 25 years, including annual occupancy since 2015. Discussions are ongoing with the Nature Conservancy of Canada to complete some vegetation thinning at the west end of the Napanee Plain Alvar Nature Reserve, which has been the Napanee LOSH field release site since 2012. WPC will also contribute to the replacement of a solar pump on this property.

In Carden, WPC will be contributing to the repair of cattle fencing around a property near Windmill Ranch. This property has so far been inaccessible to WPC staff, but was recently purchased by a landowner that is willing to work with WPC, so will be open for on-site surveys in coming years.

Public Education and Outreach

Public presentations

Lead Biologist, Hazel Wheeler was the guest speaker at the Toronto Ornithological Club meeting on Feb. 13, and the Prince Edward Point Bird Observatory AGM on May 27. Both meetings were quite well-attended, with 50-80 people present, and the presentations were received very positively.

LOSH displays were staffed at three events this year:

- Niagara Peninsula Hawkwatch Open House, April 14, Beamer Conservation Area, Grimsby
- Spring Birding Festival, May 27, Colonel Sam Smith Park, Toronto
- Family Funday: Brilliant Science, September 24, Royal Ontario Museum, Toronto

Events

WPC partnered with the Bloor HotDocs cinema for a presentation of ‘Winged Migration’, held at the cinema on April 8. The Toronto Zoo also participated in the event, with Charles Guthrie bringing one of the Zoo’s outreach shrikes (Sparky) for his first public appearance off of Toronto Zoo property, and he was very well-received. Hazel Wheeler gave a brief introduction to the movie, and Bridget Stutchbury participated in a Q&A after the screening. Approximately 185 people were in attendance.

WPC also participated in the Nature Conservancy of Canada’s event to announce the acquisition of a parcel of land immediately adjacent to the existing Napanee Plain Alvar Nature Reserve, which hosts the Napanee release site. Jessica Steiner spoke to media at the event, and Hazel Wheeler gave a tour of the Napanee field site. Local media was present at the event, so the LOSH Recovery Program received coverage on local TV and online news sites.

In partnership with the Couchiching Conservancy and the Nature Conservancy of Canada, WPC also led the organization of an “Alvar and Grassland Stewardship Workshop”, that was held at the Carden Rec Centre on October 3. This was the second in a series of workshops geared towards local landowners (the first held last fall in the Napanee region), and provided education on the unique flora and fauna of the Carden Alvar, information on responsible stewardship (including LOSH habitat), and highlighted funding available to landowners interested in undertaking stewardship projects. Twenty people were in attendance, including local landowners, environmental organizations, and citizen scientists.

Media

This year saw the completion of filming for the Our Incredible World series: Sharing our Habitats (<https://incredibleworld.ca/2017/>). Hazel Wheeler played the role of “shrike expert” in a series of scenes that were filmed this July at the Napanee field release site. The full series, which will also feature footage taken at the Toronto Zoo, is expected to be released next year.

Program support

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

- Environment and Climate Change Canada - Habitat Stewardship Program for Species at Risk
- Ministry of Natural Resources and Forestry - Ontario Species at Risk Stewardship Fund
- Colleges and Institutes Canada – Clean Tech Internship
- Loyalty One Young Conservation Leaders program
- Employment and Social Development Canada – Canada Summer Jobs
- Private foundations

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.