

Lesser Slave Lake Bird Observatory (LSLBO)

Managed by Lesser Slave Lake Bird Observatory Society Board of Directors

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Study Area

The LSLBO migration monitoring site is in the Lesser Slave Lake Provincial Park, approximately 300 km north by northwest of Edmonton, Alberta at 55°25'33.6"N, 114°49'28.8"W. The station is along the lakeshore and the habitat is primarily poplar-spruce mixed woods, willow and alder shrubbery, limited grassy areas, cobble lake shores, and open water as far from shore as the viewer can see.

Periods of Operation

Spring migration is monitored daily from mid-April to June 10 and fall migration is monitored July 12 to the end of September. The daily count period begins half an hour before sunrise and ends five hours later on poor weather days and seven hours later on fair weather days. Operations began in 1994 after trial banding in 1993. Protocols were further refined in 1995 and monitoring in both the spring and fall has taken place every year since using standardized methods.

Methods

Daily Estimated Totals (DETs) are used to monitor avian activity across spring and fall seasons with a focus on migration to develop long-term population trends. Component data of DETs are capture totals, census, visible migration watches, incidental observations, and probable or known stopovers.

Mist-netting: Twelve standard nets (established 1994) and two aerial nets (established fall 2010; included as non-standard captures) are opened for the full period under optimal conditions.

Census: During the first two hours after sunrise, a 700 m long transect is walked against the direction of migration over a 30 minute period. All birds seen or heard along the census route are recorded, except birds captured in the nets.

Visible migration watches: A five minute count is conducted hourly from a fixed point. Six to eight watches are conducted daily depending on weather conditions. Only birds visibly migrating are recorded. Prior to 2000, counts were 10 minutes long.

Incidental observations: Other observations are recorded throughout the count period and include birds seen on net rounds, on visible migration watches not visibly migrating, and casual observations between other standardized counts. Incidental contributions are generally non-standardized, but a minimum of 4 to 6 observer hours are obtained daily.

Probable or known stopovers: Several species breed locally which are also target species for monitoring. Occasionally migrants reside in the area for several days, generally due to inclement weather. These birds are considered probable or known stop-overs (PKS). In an effort to 'clean' capture, census, incidental observation and daily total data to reflect new migrants only, several PKS columns are completed using multiple observers' conservative judgement. PKS birds can be subtracted from totals for an estimate of migrants.

Confounding Variables

Since methods were standardized during 1995, 1993-95 data is excluded. Moreover, 2011 spring monitoring data should be excluded for most studies since forest fire evacuations cut the monitoring period short (May 15 end). Additional short-term evacuations have interrupted some monitoring periods, although impacts appear to be insignificant.

Habitat succession has changed the vegetative structure of the site from a young deciduous and riparian habitat to mature mixedwood, which likely impacts capture rates. Beginning in 2011, BBird protocols were adopted to monitor habitat conditions at the netlanes every five years.

Exact dates for the start and completion of monitoring vary slightly year-to-year depending on snow conditions. Caution is advised for short-distance migrants whose complete migration window is frequently missed by the monitoring period in both early spring and late fall.

Fall recapture data is inflated by nearby Monitoring Avian Productivity and Survivorship (MAPS) stations. Birds banded during this program are often recaptured in the migration station, especially once they are no longer feeding young and occupy larger ranges.

Additional Resources Available

Monitoring data: Describes effort (census times, observer field hours, net-hours, detailed visible migration watches, overall coverage codes) and daily site conditions (weather data, narratives, visitors). Habitat assessment data from 2011 and 2017 with an extrapolation of habitat conditions from photographs for 1999 are also available.

Detailed captures: Data collected from captured birds includes date, species, time of capture, net lane of capture, age, how aged, sex, how sexed, wing chord, flight feather wear, brood patch condition, cloacal protuberance development, fat score, muscle score, skull ossification (fall), weight, flight feather moult, and sometimes additional information and photos.

Data is also available from our MAPS and Northern Saw-whet Owl fall migration monitoring programs and some breeding bird surveys.