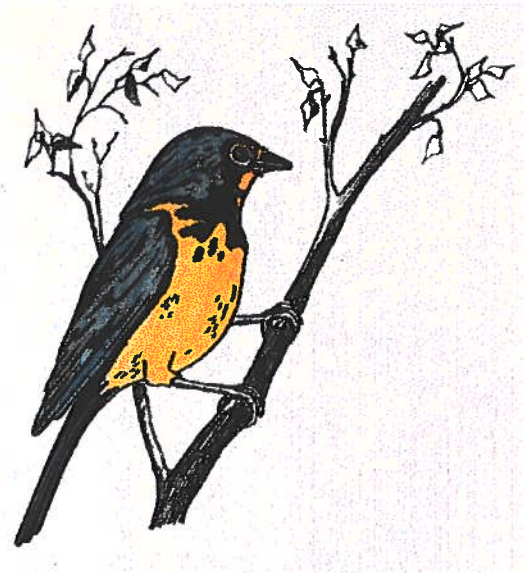
# LESSER SLAVE LAKE BIRD OBSERVATORY



# 1998 ANNUAL

# TECHNICAL REPORT

# SUMMARY

Published by:
Lesser Slave Lake Bird Observatory
POB 1076
Slave Lake Alberta T0A 2G0
(780) 849-6585 Fax (780) 849-7122

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Fall Migration Monitoring 1998 - summary report Stefan Jungkind, January 24, 1999

A record breaking fall migration monitoring season came to a close on September 24 after running for almost every day starting July 14. The numbers give a good picture of the terrific effort put in and the banding success experienced:

| | |
|---|---|
| Total days of coverage | 62 |
| Total days of banding | 58 |
| Total net-hours | 3057.9 |
| Total birds banded | 3016 (62 species) |
| Retraps | 84 individuals (105 occurrences) |
| Foreign retraps | 2 (both American Redstarts) |
| Unbanded captures | 221 (30 species) |
| Total captures | 3392 (64 species) |
| Captures/100 net-hours | 110.9 |
| Total species observed | 137 |

The total of birds banded exceeded the previous highest fall total ( 2393 in 1995) by almost 700 birds. Three species were banded for the first time at LSLBO - a Cooper's Hawk, an American Pipit and three Hairy Woodpeckers. Twenty eight other species were banded in record numbers for fall (see Table 1).

As the capture rate indicates, it was a very productive season for bird banding at LSLBO. Capture rates were consistently high up until August 14, with a peak of 995 captures/100 net-hours on August 2. The remainder of the season was substantially slower with the notable exception of September 5 where another peak occurred (690 captures/100 net-hours). Total captures for the day exceeded 100 birds on ten different days. There were 11 fatalities for the season (0.32% - 4 american Redstarts, 2 Myrtle Warblers, and one each of Yellow warbler, Ovenbird, Black-throated Green Warbler, White-throated Sparrow and Swainson's Thrush).

The weather was extremely cooperative for bird banding - only five days were missed due to rain or excess wind. However for 3 days (August 15 - 17) the nets remained closed due to a serious weasel problem. Another stretch of five days (August 4 - 8) was missed so that the last period of MAPS banding could be done.

The majority of the retraps were of birds that had been banded in 1998. However, 13 individuals were returns from a previous year (see Table 3). Out of these, three individuals (one Common Yellowthroat, one Alder Flycatcher and one American Redstart) had been retrapped earlier in the year also.

A number of expert birders were present on many occasions throughout the season, and extra time was spent on observations during slow banding times and when the nets could not be opened (especially by Dennis Verbeek). As a result, the sight records were more varied and complete than some of the previous years records.

Interesting sightings include:

| | |
|---|---|
| Rough-legged Hawk | 1 - Sep. 8 |
| Peregrine Falcon | 1 - Sep. 20 |
| Broad-winged Hawk | 26 - Aug. 17 |
| Baird's Sandpiper | 1 - Sep. 1 |
| Upland Sandpiper | 1 - Aug. 19; 1 - Aug. 22 |
| Herring Gull | 5 - Aug. 24; 4 - Aug. 26 |
| Forster's Tern | 4 - Sep. 1 |
| Caspian Tern | 2 - Aug. 30; 1 - Aug. 31 |
| Common Nighthawk | 1 - Aug.18 |
| Black-backed Woodpecker | 1 - Sep. 18 |
| Grey-cheeked Thrush | 2 - Sep. 8; 1 - Sep. 19 |
| Varied Thrush | 1 - Jul.31 |
| MacGillivray's Warbler | 1 - captured Aug. 11 |
| Fox Sparrow | 1 - Aug. 31 |
| Common Grackle | 2 - Aug. 20 |

Some raptor migration was observed in mid-August (67 birds of 7 different species on Aug. 17 and another 42 birds on Aug. 18). Say's Phoebes were again observed (up to 5) moving through in mid-August.

Field personnel consisted of Dennis Verbeek (Bander-in-charge for most of the season), Sara Wittkowski (assistant up to late August), Rainer Ebel (Bander-in-charge for eleven days), Stefan Jungkind (Bander-in-charge for three days), Steve Lane (Bander-in-charge for three days) and Jocelyne Lavallee (volunteer assistant from August 11 to August 25). Other assistants included Aaron Lehman, Janos Kovacs, Frank Fraser, Cathy Koots, Dillon Wittkowski and Cindy Verbeek. Bravo to all for a spectacular fall migration monitoring season.

# Lesser Slave Lake Bird Observatory - 1998 Spring Migration Report

prepared by Stefan Jungkind, July 31, 1998

This year, the spring migration monitoring had the most consistent coverage and the lowest capture rate of the five years of field activity at LSLBO. Between May 4 and June 9, only one day (May 10) was missed because of lack of manpower, and not a single day was completely rained out, although a few days had reduced net-hours because of showers. The capture rate of 28.9 captures/100 net-hours was marginally lower than in 1996 ( the prevous lowest capture rate of 33 captures/100 net-hours) and substantially lower than the five year average (see Table 1). However that average is somewhat skewed by the high capture rate in 1994 when only the peak migration period was covered.

In general terms, the spring migration was quite disjointed compared to previous years, showing possible effects of both local events (large forest fires causing smoke haze in the first half of May) and more global events (very late spring migration on the coast of Texas, possibly caused by massive forest fires in Mexico that created a heavy haze in Texas - according to some visitors from Texas). From a bird-banding perspective, the only big wave was on May 15 when 90 birds of 16 species were banded. On May 5 there was a "steady stream of warblers blackbirds, robins and gulls overhead - many just skirting the net tops", but very few birds caught. The anticipated waves in late May or early June simply never happened, although the banding productivity was quite steady through that time period. Casual observations outside the Migration Monitoring time period indicated some heavy diurnal migration through the general area in the last week of April and a strong movement of Cedar Waxwings in particular through the site on June 11.

Inspite of the low capture rate, the total of birds banded was the second highest since the project started in 1994 - 665 birds (46 species) banded - see Table 2. Some of the species that were banded in record numbers this spring were Canada Warbler, Clay-colored Sparrow, Black-and-white Warbler, Northern Waterthrush, Chipping Sparrow, Ovenbird and White-crowned Sparrow. At the other end of the spectrum, species which were banded in extremely low numbers compared to other years were Orange-crowned Warbler, Red-eyed Vireo and Tennessee Warbler. Also banded in lower numbers this spring were Least Flycatcher and Yellow Warbler. Species banded for the first time in spring were Winter Wren, Marsh Wren and Northern Mockingbird.

Retraps constituted a good portion of the total captures for the season - 88 recapture records (11.6 percent of the total captures - there were also 6 captures left unbanded). Out of these, 23 individual birds were "returns" from a previous season - see Table 3. A breakdown of returns into season of original capture shows that 11 were banded in a previous spring, 7 were banded during a MAPS season and only 5 were banded in a previous Fall season, even though the majority of birds banded are captured in the fall. There was one foreign retrap - a Least Flycatcher (band # 2140 38303) caught on June 5 - original banding location unknown as yet.

With very experienced birders present throughout the spring, it was not surprising that the daily totals during the season reflected the greatest diversity of the five springs of operation - 135 species observed between May 4 and June 9. Three species that have become regular and expected are **Oldsquaw** ( 17 on May 8, many other records up to at least May 19), **Surf Scoter** (75 on May 14 and many other records up to May 22) and **Yellow-bellied Flycatcher** ( 3 on May 24 and occasional other records up to June 7).

Other interesting observations include:

| | |
|---|---|
| Yellow-billed Loon | 1 on June 8 |
| Hooded Merganser | 1 female on June 4 |
| Mew Gull | 25 on May 5; 4 on May 8 |
| Golden Eagle | 1 on May 18 |
| Rufous Hummingbird | 2 on May 26 |
| Say's Phoebe | 2 on May 8 |
| Grey-cheeked Thrush | 1 banded on May 13; 2 banded on May 18 |
| Grey Catbird | 3 on May 28, including one banded |
| Northern Mockingbird | 1 banded on June 3 |
| Chestnut-sided Warbler | 5 on May 21 |
| Cape May Warbler | 2 on May 15 |
| Bay-breasted Warbler | 1 on May 15 |
| Smith's Longspur | 1 on May 8 |
| Hoary Redpoll | 12 on May 9 |

The main field personnel involved with the spring migration monitoring were Rainer Ebel, Sara Wittkowski, Steve Lane, Stefan Jungkind, Dennis Verbeek and Cathy Koot, assited by volunteers and executive of the Lesser Slave Lake Bird Observatory Society - especially Frank Fraser and Aaron Lehman.

Birds banded at LSLBO during spring migration, 1994-98

| Species | Year: 1994 | 1995 | 1996 | 1997 | 1998 | Total |
|---|---|---|---|---|---|---|
| American Redstart | 141 | 119 | 59 | 38 | 88 | 445 |
| Least Flycatcher | 128 | 166 | 26 | 47 | 34 | 401 |
| White-throated Sparrow | 35 | 93 | 32 | 71 | 92 | 323 |
| Alder Flycatcher | 87 | 69 | 55 | 39 | 40 | 290 |
| *Myrtle Warbler | 5 | 40 | 34 | 132 | 39 | 250 |
| Swainson's Thrush | 32 | 45 | 14 | 34 | 41 | 166 |
| Canada Warbler | 26 | 25 | 25 | 30 | 35 | 141 |
| Yellow Warbler | 21 | 33 | 17 | 25 | 18 | 114 |
| Common Yellowthroat | 21 | 29 | 8 | 17 | 16 | 91 |
| Clay-colored Sparrow | 11 | 21 | 9 | 16 | 27 | 84 |
| Black-and-White Warbler | 4 | 13 | 8 | 19 | 36 | 80 |
| Lincoln's Sparrow | 6 | 23 | 10 | 13 | 21 | 73 |
| Northern Waterthrush | 3 | 15 | 6 | 12 | 26 | 62 |
| Chipping Sparrow | 5 | 8 | 14 | 10 | 20 | 57 |
| Magnolia Warbler | 19 | 9 | 6 | 5 | 17 | 56 |
| Mourning Warbler | 3 | 18 | 6 | 12 | 13 | 52 |
| Orange-crowned Warbler | 2 | 16 | 16 | 14 | 3 | 51 |
| Red-eyed Vireo | 8 | 16 | 13 | 12 | 2 | 51 |
| Tenessee Warbler | 4 | 11 | 18 | 13 | 1 | 47 |
| American Robin | 9 | 12 | 8 | 4 | 5 | 38 |
| Ovenbird | 4 | 3 | 7 | 7 | 17 | 38 |
| Wilson's Warbler | 9 | 7 | 8 | 6 | 4 | 34 |
| *Slate-colored Junco | | 27 | 1 | 1 | 2 | 31 |
| White-crowned Sparrow | | 7 | 6 | 6 | 9 | 28 |
| Swamp Sparrow | 1 | 14 | 3 | 4 | 4 | 26 |
| American Tree Sparrow | | 15 | 2 | 7 | | 24 |
| Song Sparrow | 2 | 8 | 1 | 4 | 7 | 22 |
| *Western Palm Warbler | 1 | 5 | 1 | 6 | 5 | 18 |
| Black-capped Chickadee | 2 | 5 | 3 | 2 | 4 | 16 |
| Yellow-bellied Sapsucker | 2 | 4 | 4 | 3 | 3 | 16 |
| Rose-breasted Grosbeak | | 5 | 2 | 2 | 6 | 15 |
| Blackpoll Warbler | | 2 | 4 | 5 | 2 | 13 |
| Savannah Sparrow | | 4 | 2 | 5 | 2 | 13 |
| Sharp-shinned Hawk | | | 2 | 9 | 1 | 12 |
| Yellow-bellied Flycatcher | | 3 | 3 | 1 | 4 | 11 |
| Pine Siskin | | | | 8 | 2 | 10 |
| Hermit Thrush | | | 3 | 2 | 4 | 9 |
| Warbling Vireo | 1 | 1 | 1 | 1 | 4 | 8 |
| Eastern Phoebe | | 1 | 2 | 3 | 1 | 7 |
| Ruby-crowned Kinglet | | 3 | 1 | 2 | 1 | 7 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Fox Sparrow | | 4 | 1 | 1 | | 6 |
| Gray-cheeked Thrush | | 1 | | | 3 | 4 |
| Veery | | 4 | | | | 4 |
| Philadelphia Vireo | | 1 | | 2 | | 3 |
| Chestnut-sided Warbler | | 1 | | 1 | | 2 |
| | | | | | | |
| House Wren | | 1 | | 1 | | 2 |
| *Baltimore Oriole | | | 2 | | | 2 |
| Gray Jay | | 1 | | | 1 | 2 |
| Harris' Sparrow | | 1 | | 1 | | 2 |
| Red-winged Blackbird | | 1 | | 1 | | 2 |
| | | | | | | |
| Gray Catbird | 1 | | | | 1 | 2 |
| Brown-headed Cowbird | | 1 | | | 1 | 2 |
| Cedar Waxwing | | 1 | | | | 1 |
| Blue Jay | | | 1 | | | 1 |
| Western Wood Pewee | 1 | | | | | 1 |
| | | | | | | |
| Solitary Vireo | | 1 | | | | 1 |
| American Kestrel | | | 1 | | | 1 |
| Yellow-shafted Flicker | 1 | | | | | 1 |
| Northern Mockingbird | | | | | 1 | 1 |
| LeConte's Sparrow | | | | 1 | | 1 |
| | | | | | | |
| Winter Wren | | | | | 1 | 1 |
| Evening Grosbeak | | | 1 | | | 1 |
| Marsh Wren | | | | | 1 | 1 |
| Bay-breasted Warbler | | 1 | | | | 1 |
| Bl.-thr. Green Warbler | | 1 | | | | 1 |
| | | | | | | |
| Western Tanager | 1 | | | | | 1 |
| Vesper Sparrow | | | | 1 | | 1 |
| | | | | | | |
| TOTAL INDIVIDUALS | 596 | 915 | 446 | 656 | 665 | 3278 |
| | | | | | | |
| TOTAL SPECIES | 32 | 51 | 43 | 48 | 46 | 67 |

PERMIT # 10467 BANDERS NAME: BEAVERHILL BIRD OBSERVATORY

| REPORTED # | ORIGINAL # | REC DATE | HOW | WHO | PC | WHY | BATCH | REC REG | LAT-LONG D | AOU | STAT | A-S | BND REG | LAT-LONG D | BND DATE | CYC/PRO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2317-70433 | | 10-28-96 | 01 | 21 | 03 | 01 | 97188 | 353 | 472-1141-0 | 1320 | 3000 | 05-4 | 604 | 505-1140-0 | 03-03-90 | 2797 |
| ENC LOC: CHARLO MT | | | | | | ENC BY: TONY HAGE | | | | | | | | | | |
| | | | | | | 731 W SUSSEX AVE #4 | | | | | | | MISSOULA | | MT 59801 | |
| 1990-46977 | | 05-27-97 | 00 | 20 | 05 | 01 | 97174 | 679 | 500-1014-0 | 6520 | 3000 | 02-0 | 604 | 552-1144-0 | 07-30-95 | 2797 |
| ENC LOC: MOOSOMIN SK | | | | | | ENC BY: DAN MILLER | | | | | | | BOX 412 | | | |
| | | | | | | MOOSOMIN SKATCHEWAN | | | | | | | CANADA SOG 3ND | | | |
| 1990-46817 | | 09-07-96 | 10 | 23 | 03 | 01 | 97157 | 604 | 552-1152-0 | 6570 | 3000 | 01-4 | 604 | 552-1144-0 | 07-17-95 | 2797 |
| ENC LOC: LESSER SLAVE LAKE AB | | | | | | ENC BY: LESSER SLAVE LAKE BIRD OBSERVATORY C/O LAURA BLONSKI | | | | | | | | | | |
| | | | | | | PO BOX 1076 SLAVE LAKE ALBERTA | | | | | | | CANADA T0G 2M0 | | | |
| 1980-87378 | | 06-27-95 | 10 | 23 | 03 | 01 | 97157 | 604 | 552-1152-0 | 6860 | 3000 | 02-4 | 604 | 552-1144-0 | 08-05-94 | 2797 |
| ENC LOC: LESSER SLAVE LAKE AB | | | | | | ENC BY: LESSER SLAVE LAKE BIRD OBSERVATORY C/O LAURA BLONSKI | | | | | | | | | | |
| | | | | | | PO BOX 1076 SLAVE LAKE ALBERTA | | | | | | | CANADA T0G 2M0 | | | |
| 2131-19422 | | 08-22-95 | 10 | 23 | 03 | 01 | 97157 | 604 | 552-1152-0 | 7350 | 3000 | 01-5 | 604 | 552-1144-0 | 07-09-94 | 2797 |
| ENC LOC: LESSER SLAVE LAKE AB | | | | | | ENC BY: LESSER SLAVE LAKE BIRD OBSERVATORY C/O LAURA BLONSKI | | | | | | | | | | |
| | | | | | | PO BOX 1076 SLAVE LAKE ALBERTA | | | | | | | CANADA T0G 2M0 | | | |

TOTAL RECORDS LISTED FOR BANDER 5

Returns at LSLBO, Spring, 1998

| Species | Total returns | Banded in 1997 | | | Banded in 1996 | | | Banded in 1995 | | | Banded in 1994 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Fall | Maps | Spr | Fall | Maps | Spr | Fall | Maps | Spr | Fall | Maps | Spr |
| Northern Flicker | 1 | | | | | | | 1 | | | | | |
| American Robin | 2 | | | 2 | | | | | | | | | |
| Red-eyed Vireo | 1 | | | 1 | | | | | | | | | |
| Black-and-white Warbler | 1 | | | 1 | | | | | | | | | |
| Magnolia Warbler | 2 | | 2 | | | | | | | | | | |
| Myrtle Warbler | 2 | | 1 | | | | | | | 1 | | | |
| Canada Warbler | 2 | | 1 | | | | | | | 1 | | | |
| Common Yellowthroat | 1 | | | | 1 | | | | | | | | |
| American Redstart | 10 | | 1 | 2 | | | | 2 | 1 | 1 | 1 | 1 | 1 |
| White-throated Sparrow | 1 | | | | | | | | | 1 | | | |
| Total | 23 | | 5 | 6 | 1 | | | 3 | 1 | 4 | 1 | 1 | 1 |
| (Total for year) | | | 11 | | | 1 | | | 8 | | | 3 | |

## 1.0 Introduction

This report summarizes the Lesser Slave Lake Bird Observatory Annual Technical Report for the field season of 1998.

The Lesser Slave Lake Bird Observatory (LSLBO) operates in Lesser Slave Lake Provincial Park and is the only non-profit society in Alberta to operate a bird-banding research station. The main purposes of the LSLBO, in partnership with Alberta Environmental Protection, are to:

- Monitor bird populations during the spring and fall migration
- Collect data on breeding birds including survivorship, age classes, and productivity
- Present bird conservation education programs
- Understand passerine ecology in the north western part of North America
- Correlate our data with local, regional, national, and international land-use practices
- Assess the ongoing health of the boreal forest based on bird populations
- Identify which bird species have been increasing/decreasing over time, and
- Identify species in trouble, before they become endangered species, so that cost effective action can be taken.

## 2.0 Why Band at LSLBO?

This project collects a unique data set. It is the only Boreal Forest migration monitoring station in the world. Through banding, we learn:

- what proportion of the total population are young birds, (an indication of breeding success)
- about the presence/absence of each species in the area
- how healthy they are (based on their weight and body fat)
- how long they stay at Lesser Slave Lake, and
- where they are migrating to (based on birds that are later captured or found elsewhere and their bands reported).

The LSLBO is located on the eastern shoreline of Lesser Slave Lake and southwest of Marten Mountain and the Pelican Uplands. The lake and mountain act as natural barriers to migratory birds. Consequently, large numbers of birds are funnelled through the research area during the spring and fall migration. Many migrants use the area to rest and feed before continuing on in their journey north to breeding grounds. The large concentrations of migratory birds, which rivals birding hot spots like Point Pelee in southern Ontario, allow us to count and monitor internationally significant bird populations, as they migrate north in spring and south in fall.

The LSLBO is particularly valuable and important for monitoring populations of bird species that breed in northern Canada. They nest in areas that are inaccessible to more conventional monitoring methods such as the Breeding Bird Survey.

Experienced banders operate the station on a daily basis throughout the spring and fall migration. For about the first 6 hours of each day, starting just before sunrise, volunteers capture birds, band them, and then release them again to continue on their migration. Our migration studies are designed to meet resource industry and government land managers' needs and to complement future research projects. In addition to the banding, volunteers carry out a standardized census to count birds that were not caught in our nets and keep track of all the migrants they either observe or hear throughout the day. With the combination of banding results, the census, and casual observations, a "Daily Estimated Total" is derived. This is an estimate of the total number of each species that stopped at or passed by the station during the day.

The result is a huge database. In 1998, the LSLBO banded over 6,000 birds of 112 species, more than any other organisation in Western Canada. We documented over 68,000 birds on migration at our field station. We use standardized methods to count and monitor population changes in bird species over time. These proven and successful methods are in standard use by other stations throughout Canada.

Our long-term goal is to look at the average daily counts in each season and derive annual population indices for each species. From these indices, we can then legitimately look at the population trends in many boreal nesting bird species and their survivorship due to habitat change and loss.

# 3.0 Results

## *3.1 Spring Migration*

Spring banding at the LSLBO began on May 4th and ended on June 9th. The birds banded consisted of 672 newly banded birds, 102 recaptures, 9 released unbanded birds (i.e escapees), and 3 casualties -- a total of 786 birds. This data indicates that the LSLBO is a very good location for capturing large samples of birds and the site is used by the migrating birds year after year (15% retraps), and therefore, Lesser Slave Lake Provincial Park is important to their survival. These retrap numbers are significant because they allow the bird observatory to conduct population studies in successive years. By analysing population trends, over successive years, we can monitor the health of the boreal forest in northern Alberta.

The most abundant species captured were the White-throated Sparrow (14%), American Redstart (13%), Swainson's Thrush (6%), and Alder Flycatcher (6%). Each species also breeds in the local area. The majority of birds arriving during the spring were males. The ratio of males to females was approximately 2:1 (males 54%, females 24%). Males, at this time of year, are usually the first on the breeding grounds to set up territories, followed by the females.

### *3.2 Fall Migration*

Fall banding at the LSLBO commenced July 14th and ended September 25th. The birds banded consisted of a much larger 3,022 newly banded birds, 116 recaptures, 222 released unbanded birds (due to high volumes, escapees), and 11 casualties -- a total of 3,371 birds.

These results provide excellent population numbers with which to work and to generate statistically valid species population trends. The retrap numbers are not as abundant as in the spring (4%) because a majority of all captured birds were new born. This figure is the result of the large sample size, but it is significant in ecosystem managment planning for two reasons:

1. Provides an opportunity to conduct species population demographic studies

2. Pinpoints any concerns that need to be addressed to mitigate/modify current land use practices based on each species habitat requirements

The two most outstanding retraps included a Yellow Warbler banded at the LSLBO on July 30, 1995 and recaptured on May 27, 1997 in Moosomin, Saskatchewan, and a Least Flycatcher banded on May 25, 1998 in Omaha, Nebraska, USA and recovered at the LSLBO station on June 5, 1998. It is this type of information that allows us to understand the migration routes and habitats used by many of our passerines throughout their lives.

During fall migration, the most abundant species captured were the American Redstart (19.3%), Myrtle Warbler (18.3%), Tennessee Warbler (7.4%), Yellow Warbler (6.2%), and Swainson's Thrush (5.9%). The majority of birds, at the beginning of fall migration, were females. By August, the males and females were almost in a 1:1 ratio. Near the end of the fall migration, it reverted back to a majority of males.

The LSLBO is situated in a very productive area of the boreal forest, which indicates its significance in migration monitoring. A total of 68,557 birds, 171 different species, were documented throughout the 1998 spring and fall migration. These birds were either seen, heard, or banded. Rare birds that were observed included the American Goldfinch, Baltimore Oriole, Black-backed Woodpecker, Brown Creeper, Golden Eagle, Grey Catbird, House Sparrow, Leconte's Sparrow, Northern Mockingbird, Red Crossbill, Rough-legged Hawk, Upland Sandpiper, Varied Thrush, and Yellow-billed Loon.

It is this type of information that is important because we are beginning to learn more about the movements and habitat uses of many boreal birds during migration. This will allow resource planners to make better management decisions now and in the future.

## 4.0 Recommendations

The following are recommendations for future project scope and direction for the Lesser Slave Lake Bird Observatory:

1. Work with funding agencies, resource-based companies, conservation groups, governments, and others to identify priority research and education programs with songbirds.

2. Continue to monitor and document western bird populations as they migrate through the LSLBO.

3. Continue to monitor abundant species, such as the American Redstart, and document population trends in these species.

4. Analyze data to identify which species might be experiencing declines or increases.

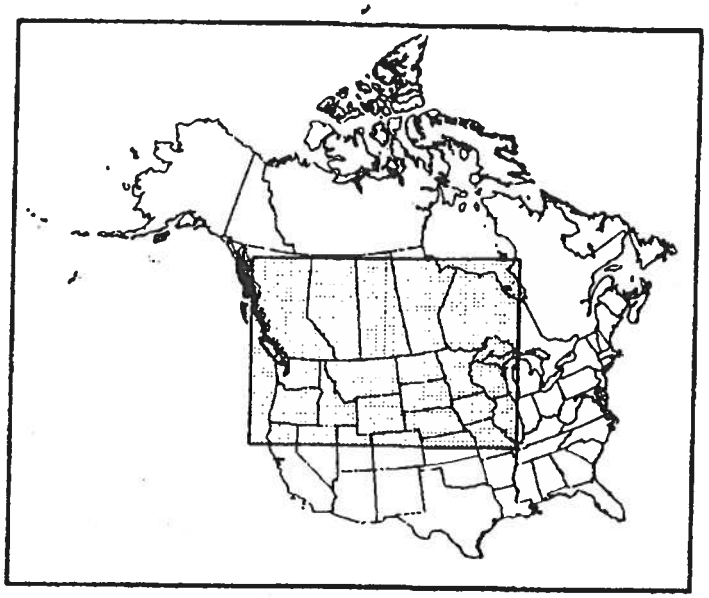
5. Establish the Observatory as a centre for bander training in Western Canada.

6. Conduct forest canopy research of neo-tropical passerine migrants, and

7. Establish baseline information for passerine species within an intact boreal forest ecosystem in Lesser Slave Lake Provincial Park.

# LEAST FLYCATCHER

**Band # 2140 38303**



- Banded 25 May, 1998 - Nebraska, USA
- Recaptured 05 June, 1998 - Lesser Slave Lake, Alberta