

Lesser Slave Lake Bird Observatory - 1993 feasibility study

Introduction and background

The Beaverhill Bird Observatory, in existence since 1984, has long promoted birdbanding as both a tool for monitoring bird populations (for conservation reasons in particular) and a vehicle for sparking an interest in wildlife in the general public. As Western Canada's first (and, until recently, only) volunteer run banding station, it has played a leading role in training and assisting birdbanders in the region. As an active member of the BBO, I have for many years hoped to be able to initiate a network of birdbanding stations in north-central Alberta to provide better information on the songbird populations that migrate through this area. To this end, in 1992, at the instigation of Frank Fraser (LSLPP park naturalist), I looked into the possibility of initiating a birdbanding station in Lesser Slave Lake Provincial Park (letter of September 25, 1992 to Grant Kihn, Ranger in Charge, and subsequent research application).

During 1993, Frank Fraser, Steve Lane (a fellow Beaverhill Bird Observatory birdbander) and I made some trial attempts of birdbanding in Lesser Slave Lake Provincial Park during migration to determine:

- 1) whether there was sufficient bird movement through the park during migration to warrant setting up a migration monitoring station,
- 2) whether there were suitable net-lane sites for capturing adequate numbers of songbirds to make birdbanding an integral part of such a station
- 3) if the species composition was significantly different from that at the only other bird observatory in the region (the Beaverhill Bird Observatory, 70 km. sotheast of Edmonton), and
- 4) if there was sufficient local interest to develop a strong volunteer core locally in the future.

Site selection and times of activity

It is well known and documented that large bodies of water act as barriers to Songbird (and other) migration resulting in concentrations and/or heavy migration movement along the shores. For this reason, we chose as our main location a spot along the northeast shore of Lesser Slave Lake just north of where the Lily Creek campground road meets the old highway right of way. This site was at the south end of a long strip (about 3 or 4 km. at least) of "edge" habitat between the mature mixed wood boreal forest and the lakeshore. This strip, averaging about 80 meters in width,

consisted of (from shore to forest): a thin strip of mature willows, poplars and alder, up to 10 meters in height; the right of way (open "grassland"); and a wider strip of shrubbery (alder, willow, dogwood, young spruce etc.) interspersed with open spaces.

Nets were set up in both strips of shrubbery to intercept north-south movement for the main part. Five consecutive days in late spring (May 29 to June 2), one day in midsummer (July 19) when post breeding season dispersal and fall migration generally begins and three days in mid fall (August 31 to September 2) were spent at this site. In addition, one day (July 20) was spent banding at a second site a few km. north west along the shore and two early mornings were spent observing birds at Marten River campground at the height of the fall migration (August 5 & 6).

Results

A total of 290 birds (35 species) were banded during the ten days of (birdbanding) field activity (see Table 1). Considering the total net-hours (295.5) and the non-optimum timing of the operation (the last two weeks of May and the first three weeks of August are likely to be the time of heaviest songbird migration here) the results were very promising. With the exception of the three days in mid fall, the capture rates were higher than those for equivalent time periods at the Beaverhill Bird Observatory for 1986-91 (see Table 2). In addition, the top twelve species banded were for the most part quite different from the top twelve species banded at Beaverhill Lake for 1986 to 1991 (see Table 3), although this could be partially explained by the timing of the banding activity (season-wise).

Of particular interest were:

a) The large number of Canada Warblers banded (more than the 12 year total - 1980 to 1991 - at the Beaverhill Bird Observatory). Most of these were caught during the late spring session.

b) First confirmed breeding at Lesser Slave Lake for Wilson's Warbler - a newly fledged young was caught along with a retrapped adult on July 19.

c) Almost equal numbers of Least and Alder (Traill's) Flycatchers banded. At Beaverhill Lake, the ratio averages about 7:1 in favour of Least Flycatchers.

Visual observations during the birdbanding visits and during an additional visit August 5th and 6th yielded the following interesting records:

a) Caspian Tern - one seen flying and diving for fish (in typical Tern fashion) close to shore along the NE shore of Lesser Slave Lake, July 20. It was noticeably larger and whiter on the wings than Common Terns that were also occasionally flying by. It's large bill was bright red all the way to the tip. It's black cap seemed truncated about 3/4 of the way to the back of the head. Seen through 12 power binoculars at a range of about 50 metres for 5 minutes with bright sun overhead. This is a second record for Lesser Slave Lake as far as I know (Rainer Ebel observed one near Marten River campground last year).

b) Rosy Finch (Gray-crowned) - a pair seen foraging together and possibly collecting nesting material on "Marten Mountain" just east of L. Slave Lake, June 2. I watched them for at least ten minutes at 10 to 20 metres distance (through 12 power binoculars) while they were on the ground by the picnic tables and then on telephone wire and tops of spruce trees further off, always staying close to each other. The top of Marten Mountain features a small patch of cleared area (for a fire tower and grounds) and a rock covered slope below the viewpoint. Otherwise, the entire surrounding area is densely forested (mature spruce and mixed wood). This was by far my most surprising sighting of the year (closest Rocky Mountains are almost 400 km away) and was another first for L. Slave Lake.

c) Heavy songbird migration through Marten River campground on August 5 & 6 including Am. Robin, Swainson's Thrush, Western Tanager, all four species of Vireo, Tennessee Warbler (250++), Yellow Warbler, Myrtle Warbler, American Redstart (80++), Common Yellowthroat, Canada Warbler, Blackpoll Warbler, Bay-breasted Warbler, Mourning Warbler, White-throated Sparrow (40+), Least and Alder Flycatcher. A brief stop at the mist-netting site near Lily Creek campground later in the morning revealed comparable numbers of songbirds moving through that area also.

Personnel involved in the banding activity included myself, Steve Lane and Frank Fraser assisted by at least five local volunteers as well as my wife, Debra Belmonte. A very positive aspect of the project was the support, assistance and acknowledgement of our efforts from the Provincial Parks and District Offices, especially June Markwart and Grant Kihn. I would also like to praise the energy and effort of Frank Fraser in getting this project off the ground. He really bent over backwards in making it possible for myself and Steve Lane to visit the lake for the times that we did the birdbanding. The interest and enthusiasm in the project locally bodes well for future such activities at Lesser Slave Lake Provincial Park.

Conclusion and recommendations

On the basis of 10 field days at two sites along the northeast shore of Lesser Slave Lake, I would recommend that:

- 1) a Bird Observatory be established in the park along the northeast shore of the lake to monitor landbird migration,
- 2) Field Assistants be hired each summer for the next three years at least to ensure adequate coverage of the migration periods. These assistants would be trained by BBO personnel and supervised by Frank Fraser (park naturalist) and could also act as park interpreters for some of the time.
- 3) the BBO be initially in charge of the station, in collaboration with L.S.L. Provincial Park. A local organization should be started that will eventually take full control of the station when there are enough sufficiently trained personnel.
- 4) other sites be tried out closeby, especially at peak migration times, to establish the best place for a permanent station. The two sites tried out in 1993 are very promising already.

In conclusion, the 1993 investigation strongly supported the expectation that a migration monitoring station along the northeast shore of Lesser Slave Lake is likely to provide significant data on northern breeding populations of landbirds if a full season of field activity were accomplished. The likelihood of sufficient volunteer input both locally and from Edmonton seems high, especially considering the positive attitude and support of the Parks personnel in Slave Lake regarding volunteer participation. In my opinion, a field station as described above would be a very good candidate for becoming one of the core group of "primary" sites for "intensive" monitoring described in the summary of "Results of a US/Canada workshop on migration monitoring of landbirds" - a copy of which is enclosed with this report.

Table 1. Species banded at Lesser Slave Lake in 1993.

Species banded	May 29 to Jun 2	Jul 19 to Jul 20	Aug 31 to Sep 2	Total
Yellow-bellied Sapsucker	1	-	-	1
Yellow-bellied Flycatcher	1	-	-	1
Alder (Traill's) Flycatcher	9	15	2	26
Least Flycatcher	17	-	10	27
Black-capped Chickadee	1	1	1	3
Red-breasted Nuthatch	-	-	1	1
Ruby-crowned Kinglet	1	-	-	1
Swainson's Thrush	3	1	1	5
American Robin	3	-	-	3
Cedar Waxwing	-	5	-	5
Solitary Vireo	1	-	-	1
Philadelphia Vireo	1	-	1	2
Red-eyed Vireo	8	5	2	15
Tennessee Warbler	1	2	1	4
Orange-crowned Warbler	-	-	7	7
Yellow Warbler	8	18	11	37
Magnolia Warbler	2	2	2	6
Yellow-rumped Warbler	3	6	6	15
W. Palm Warbler	-	-	1	1
Black-and-white Warbler	1	2	-	3
American Redstart	30	6	7	43
Ovenbird	1	-	-	1
N. Waterthrush	-	-	2	2
Mourning Warbler	1	1	-	2
Common Yellowthroat	7	3	5	15
Wilson's Warbler	6	1	2	9
Canada Warbler	19	2	-	21
Chipping Sparrow	2	-	-	2
Clay-colored Sparrow	7	3	-	10
Song Sparrow	2	4	-	6
Lincoln's Sparrow	3	4	1	8
Swamp Sparrow	-	1	-	1
White-throated Sparrow	2	1	1	4
White-crowned Sparrow	-	-	1	1
Purple Finch	-	1	-	1
Total species:	27	21	20	35
Total individuals:	141	84	65	290

Table 2. Comparison of capture rates between the BBO (1986-1991) and Lesser Slave Lake (1993)

	Nethours	Captures	Cap./100 nhrs
BBO, May 21 -Jun 9	1930.53	839	43.46
LSL, May 29 - Jun 2	139	141	101.44
BBO, Jul 10 -Jul 19	1514.5	887	58.57
LSL, Jul 19 - 20	53	89	167.92
BBO, Aug 29 - Sep 7	1067.75	933	87.38
LSL, Aug 31 - Sep 2	103.5	65	62.80

Table 3. Comparison of species banded at Beaverhill Lake (1986-91) and Lesser Slave Lake (1993)

Beaverhill Lake (entire year)	Average	Lesser Slave Lake (nine days)	1993
Top 12 species	1986-91	Top 12 species	
Least Flycatcher	200	* American Redstart	43
Yellow Warbler	143	Yellow Warbler	39
Yellow-rumped Warbler	121	Least Flycatcher	27
Clay-colored Sparrow	84	Alder (Traill's) Flycatcher	26
Tennessee Warbler	63	* Canada Warbler	21
Black-capped Chickadee	47	* Red-eyed Vireo	15
American Redstart	30	Yellow-rumped Warbler	15
Traill's Flycatcher	29	* Common Yellowthroat	15
Am. Tree Sparrow	27	Clay-colored Sparrow	10
Warbling Vireo	24	* Wilson's Warbler	9
Red-winged Blackbird	19	* Lincoln's Sparrow	8
Blackpoll Warbler	12	* Orange-crowned Warbler	7

* - species for which the totals are already greater at LSL than the 1886-91 average at the BBO