Report from the Lesser Slave Lake Bird Observatory 1995

Another busy, exciting and record-breaking field season at the LSLBO came to a close on September 24. After an eye-opening initial "full" season in 1994 (following ten days of pilot study in 1993) we looked forward to an even better second year and were definitely not disappointed!

The major components of the field activity consisted of:

1) Spring Migration Monitoring - 38 days (2402 net-hours) between April 28 and June 9, 915 birds banded (51 species), 134 others captured and 128 species observed.

2) MAPS - 35 days (1088 net-hours over 22 of those days) between June 12 and August 3, 213 birds banded (18 species),126 others captured and 67 species observed

3) Fall Migration Monitoring - 52 days (2550 net-hours) between July 17 and September 24, 2392 birds banded (58 species), 220+ others captured and 107+ species observed.

This totals **3521 birds banded (68 species)** for the year with 480+ additional birds captured.

Bird highlights of the field season included:

Caspian Tern - sighted August 23 and 24
Gray Jay - 1 banded, May 31
Brown Creeper - 1 banded, September 5
Golden-crowned Kinglet - 4 banded (August 28 - September 13)
Veery - 3 banded (May 9-10)
Grey-cheeked Thrush - 1 banded, May 21
Nashville Warbler - 1 banded, August 4
Chestnut-sided Warbler - 3 banded (June 5, July 30 & August 6)
Cape May Warbler - 10 banded (August 14 - 31)
Black-thr. Green Warbler - 5 banded (June 9, Aug. 6 - Sep. 3)
Blackburnian Warbler - 1 banded, September 2
Bay-breasted Warbler - 4 banded (June 4, August 14-16)
Connecticut Warbler - 1 banded, August 22
Fox Sparrow - 6 banded (May 4 - four, September 1 & 14)
Harris' Sparrow - 1 banded, May 25
Western Meadowlark - 1 sighted, May 1

Some of the other wildlife encountered provided for excitement of a different (and perhaps less enjoyable) kind:

Black Bears were frequently encountered, sometimes at close quarters, but none displayed any aggressive behaviour.

A Cougar was heard giving it's shrill and frightening mating call closeby on May 15, leading the Field Assistants to take refuge in the Lab building and call a Park Ranger for rescue on their radio phones.

On June 4 a cow moose went into a frenzy near the lab while protecting her calf. Needless to say, the security of the lab came in handy during this encounter also.

Migration and M.A.P.S Summary

1. Banding and Observations

The Lesser Slave Lake Bird Observatory's 1995 field season began on April 29 and ended September 24. Start-up in early spring during the initial stages of passerine migration, in addition to continuous daily banding during the fall months of August and September resulted in a consistent and complete sampling of migratory banding and observation data.

During the 1995 season, from the period of April 29 to August 31, the station captured 3488 birds; 1050 during spring migration, 337 during M.A.P.S, and 2101 during fall migration. Of the 1050 captured during spring migration, 916 were newly banded, 63 were repeats (banded within 90 days), 35 were return and recoveries (banded outside of a 90 day period), and 36 were other captures (escapes or released and unbanded). Of the 337 banded during M.A.P.S, 211 were newly banded, 83 were repeats, 34 were return and recoveries, and 9 were other captures. Of the 2101 birds captured during fall migration, 1883 were newly banded, 115 were repeats, 32 were return and recoveries, and 71 were other captures. 53 different species were captured during spring migration, 22 species during M.A.P.S. and 54 species during fall migration (to August 31).

A total of 128 species were observed during spring migration, 67 during M.A.P.S, and 107 during fall migration (to August 31).

Highlights of the spring migration include the banding of a Grey-cheeked Thrush (May 21), a Harris Sparrow (May 25), a Bay-Breasted Warbler (June 4), a Black-throated Green Warbler (June 9), three Veerys (May 9,10), four Fox Sparrows (May 4),a Chestnut-sided Warbler (June 5), and the sighting of a Western Meadowlark (May 1).

No unexpected sightings were made during the M.A.P.S program. However, a pair of Pileated Woodpeckers were sighted on a number of occasions and were believed to be nesting within the study area. Also, a Winter Wren was present throughout the entire breeding season. However, no evidence of mating activity was ever witnessed.

Highlights of the fall migration (to August 31) include the sighting of Caspian Terns (Aug. 23,24), the banding of two Bay-breasted Warblers (Aug. 14,16), a Nashville Warbler (Aug. 4), a Connecticut Warbler (Aug.22), two Chestnut-sided Warblers (July 30,Aug. 16), eight Cape-May Warblers (Aug. 14,Aug. 22, 26,30, 31), three Black-throated Green Warblers (Aug. 6,7) and a Golden-crowned Kinglet (Aug. 28). The 1995 LSLBO set a new daily banding record on August 25, with a total of 180 birds banded in a six hour period.

2. Casualties

The number of injuries and deaths were minimal throughout the spring migration period and include one case of predation, two self-inflicted deaths, two deaths from natural causes and/or stress, and six notable injuries.

Injuries and deaths were again minimal during M.A.P.S. and include two predations, two deaths from natural causes and/or stress, and one broken leg.

An unfortunate incident during the fall migration monitoring period caused a high death rate of 61. On August 6 during peak migration, with all 12 nets open, it began to rain heavily without warning. Although the staff present at the time extricated as quickly as possible, 38 casualties occurred due to exposure. Fortunately, 175 of these birds were saved and no members of the public were present to witness the mishap.

LSLBO hosted its first annual 'Songbird Festival' on May 20-21 with approximately 275 people in attendance. The event offered banding demonstrations and birding hikes performed by LSLBO staff and BBO volunteers to the attending public. Also featured was a dinner, waterfowl art auction, and guest presentation by Dr. James Butler, renowned conservationist and professor from the University of Alberta. Formal scheduled demonstrations were offered on the majority of Thursdays and Saturdays at 10:00 a.m. during the entire field season. Informal, impromptu demonstrations were also offered according to demand and feasibility. In addition, a number of large groups attended the Lesser Slave Lake Bird Observatory for additional formal demonstrations throughout the season. Excluding volunteers, the LSLBO had approximately 880 visitors (including all the above) during the period between April 29 to September 24. Overall, the public interest and response to the Lesser Slave Lake Bird Observatory grew substantially over last year. Staff discussions with the majority of visitors to the LSLBO left them with the impression that most had felt that the LSLBO offered a truly unique wildlife experience.

The LSLBO was very fortunate in being able to hire Lisa Zuberbier again this summer as "Senior Field Assistant" after her hard work last year as Assistant to Jason Duxbury. This year she acted as the onsite field supervisor for most of the season and did a terrific job all round, including making sure the field activities were accomplished in a consistent and professional manner, banding data were all input (including the remainder of those from 1994) and coordinating volunteer personnel and visitors (this part as a volunteer). A very big thank you to Lisa and to her able fellow Field Assistants Sherilynn Lessard (May 15 to August 17) and Colleen Johnston (May 1-12). Appreciation also extended to the Migration Monitoring contractees, Steve Lane, Kevin Hento and Matthew Smith for their hard work filling the gaps and extending the season.

Volunteer support increased over the 1994 season. Colleen Johnston, who provided her support through both volunteer and contract work on 42 separate days during the field season, was our primary volunteer and deserves special recognition. Volunteer bird banders Jason Duxbury, Stefan Jungkind, Steve Lane, Rainer Ebel, Joan DeGeer, Matthew Smith and Hardy Pletz all helped to fill out the field season. In addition, other volunteers lent their much appreciated field support including Debbie Strickland, Kellan Sunderland, Jerry Sunderland, Ann Zuberbier, Melanie McLaughlin, Cheryll Dash, Carla Otto, Andrew Lukat, Aaron Lehman, Gordon Frith, Jeff Ingram, Rachel Amores, Jean Whitney, Alan Hingston, Matthew Smith, Donna Lawrence and Laura Blonski. Recognition should also be extended to those members of the BBO who donated their time for performing hikes at the Songbird Festival.

In February, Marion Whitby stepped forward to chair the LSLBO committee in Slave Lake and organized (and continues to organize) the local volunteers, Ian Whitby, Ian and Colleen Johnston, Frank Fraser, Dan Tarney, Kevin Stephenson, and Roxanne Anderson and others in putting on the Songbird Festival and improving the building. Al DeGroot and Jack Blackburn also made big contributions to the building improvements. Special consideration should be given to Stefan Jungkind and Frank Fraser who spent a lot of their own time taking care of administrative details and

for providing ongoing support to the field staff throughout the summer so that the successful operation of the station could be ensured. A big thank you to all. Next LSLBO meeting is **Monday, November 27, ??? pm at ???.** Please come out and see how you can get involved.

Finally, none of this could have happened without the generous financial support of two important funding agencies - Alberta Sport, Recreation and Wildlife Foundation ($6000 in 1994 and $5000 in 1995) and Alberta Ecotrust Foundation ($15000 in 1995 toward capital purchases). Other important financial assistance was received from the Baillie Fund ($3000 in each of 1994 and 1995) and Environment Canada (CWS - $3000 in 1995). The Songbird Festival, Baillie Birdathon proceeds and direct corporate and individual donations (too many to list here - watch for annual report) all helped to make the 1995 season the success that it turned out to be. Much appreciation is extended to all these supporters.

Birds banded at LSLBO, 1993-95

Species	Spring	MAPS	Fall	Total '95	Tot '94	Tot '93	Tot 93-5
Sharp-shinned Hawk			13	13	5		18
Yellow-bellied Sapsucker	4	2	3	9	2	1	12
Downy Woodpecker			3	3	-		3
Yellow-shafted Flicker			1	1	1		2
Western Wood Pewee			1	1	3		4
Yellow-bellied Flycatcher	3		0	3	8	1	12
Traill's Flycatcher	69	3	70	142	254	26	422
Least Flycatcher	166	1	74	241	234	27	502
Eastern Phoebe	1		1	2	1		3
Gray Jay	1		0	1	0		1
Blue Jay			0	0	1		1
Black-capped Chickadee	5		60	65	36	3	104
Boreal Chickadee			3	3	7		10
Red-breasted Nuthatch			19	19	1	1	21
Brown Creeper			1	1	-		1
House Wren	1		0	1	-		1
Winter Wren		1	0	1	-		1
Golden-crowned Kinglet			4	4	1		5
Ruby-crowned Kinglet	3		13	16	15	1	32
Veery	4		0	4	-		4
Gray-cheeked Thrush	1		0	1	-		1
Swainson's Thrush	45	10	86	141	126	5	272
Hermit Thrush			4	4	4		8
American Robin	12	1	6	19	17	3	39
Gray Catbird			0	0	1		1
Cedar Waxwing	1		24	25	13	5	43
Solitary Vireo	1		8	9	4	1	14
Warbling Vireo	1		8	9	5		14
Philadelphia Vireo	1		28	29	6	2	37
Red-eyed Vireo	16	3	50	69	39	15	123
Tenessee Warbler	11	8	229	248	371	4	623
Orange-crowned Warbler	16		48	64	20	7	91
Nashville Warbler			1	1	-		1
Yellow Warbler	33	3	216	252	157	37	446
Chestnut-sided Warbler	1		2	3	4		7
Magnolia Warbler	9	4	44	57	61	6	124
Cape May Warbler			10	10	8		18
*Myrtle Warbler	40	7	480	527	123	15	665
Bl.-thr. Green Warbler	1		4	5	-		5
Blackburnian Warbler			1	1	-		1
*Western Palm Warbler	5		6	11	4	1	16
Bay-breasted Warbler	1		3	4	-		4
Blackpoll Warbler	2		20	22	7		29
Black-and-White Warbler	13		50	63	38	3	104
American Redstart	119	67	362	548	521	43	1112
Ovenbird	3	7	20	30	25	1	56
Northern Waterthrush	15		6	21	16	2	39
Connecticut Warbler			1	1	-		1
Mourning Warbler	18	18	43	79	61	2	142
MacGillivray's Warbler			0	0	-		0
Common Yellowthroat	29	1	38	68	48	15	131
Wilson's Warbler	7		47	54	70	9	133
Canada Warbler	25	35	96	156	132	21	309
Western Tanager		1	5	6	4		10

Birds banded at LSLBO, 1993-95

Species	Spring	MAPS	Fall	Total '95	Tot '94	Tot '93	Tot 93-5
Rose-breasted Grosbeak	5		7	12	14		26
American Tree Sparrow	15		18	33	-		33
Chipping Sparrow	8		2	10	8	2	20
Clay-colored Sparrow	21		2	23	12	10	45
Savannah Sparrow	4		4	8	4		12
Fox Sparrow	4		2	6	-		6
Song Sparrow	8		5	13	8	6	27
Lincoln's Sparrow	23		32	55	35	8	98
Swamp Sparrow	14		17	31	22	1	54
White-throated Sparrow	93	41	60	194	127	4	325
White-crowned Sparrow	7		13	20	7	1	28
Harris' Sparrow	1		0	1	-		1
*Slate-colored Junco	27		15	42	8		50
Red-winged Blackbird	1		0	1	-		1
Brown-headed Cowbird	1		0	1	-		1
Purple Finch			4	4	6	1	11
Pine Siskin			0	0	30		30
TOTAL INDIVIDUALS	915	213	2393	3521	2735	290	6546
TOTAL SPECIES					53 (1)		

Names and addresses of field personnel in 1995

Lisa Zuberbier - Box 726, Slave Lake, AB T0G 2A0, ph: 849 5827
Steve Lane - Box 9, Site 210, RR2, Stony Plain, AB T0E 2G0; ph: 963 6084
Colleen Johnston - 804 10th Avenue SE, Slave Lake, AB T0G 2A3; ph: 849 3526
Kevin Hento - 10414 27 Avenue, Edmonton, AB T6J 4J5; ph:438 0958 (749 3639 up to August 18)
Matthew Smith - #304 7911 98 Street, Peace River, AB T8S 1C5; ph: 624 8109
Stefan Jungkind - 5103 108A Avenue, Edmonton, AB T6A 1R1; ph: 465 2370
Sherrilynn Lessard -

Volunteer bird banders (Steve, Colleen, Matthew and myself also did volunteer fieldwork):
Rainer Ebel - 18624 70 Ave. Edmonton, T5T2V8; ph: 444 4486
Joan DeGeer - Box 9, site 6, RR 1, Thorsby, AB ToC 2PO; ph 446 0040
Hardy Pletz - 6915 87 Ave., Edmonton, T6B 0L5; 466 6366
Jason Duxbury - 5 Larwood Place, Sherwood Park, AB T8A 0J8; ph: 437 9182
Dan Osness 439-2590.
Volunteer assistants (non-local):
Rachel Amores - 10709 73 Ave., Edmonton, T6E 1C5; ph: 439 7088
Alan Hingston - 53 Wakefield Blvd, St. Albewrt, AB, T8N 3G1; ph: 459 6389
Jean Whitney - Box 5289, Drayton Valley, AB, T0E 0M0; ph: 542 7589

Building assistants (non-local):
Al deGroot - Box 752, Redwater, AB, T0A 2W0; ph: 942 2062
Jack Blackburn - 305-2604 139 Ave. Edmonton, T5Y 1A1; ph: 473 7685

All others (see year-end report enclosed) seem to be local people - I assume you or Frank have addresses for them.

Regarding mistnets and birdbags, all bird and net bags will need to be turned inside out and shaken vigorously outside (the person doing this must be sure not to inhale any of the dust) and then washed thoroughly (regular laundry should be OK. All the nets could be gently hand-washed in a very gentle detergent (maybe even dish soap) and dried thoroughly (just hang loosely over a long row of nontangling hooks or nails stuck in the wall) before storing in the larger, more porous bags. For storing, they should be hung (in individual bags) in a dry place where mice cannot get at them. If someone there can manage some net repair over the winter it would really improve things for next season. I hope to make it up there for the Nov. 27 meeting and I can discuss or show more about it. Also I have references, a weigh scale and other minor items (all belonging to LSLBO) that I would like to have stored safely in Slave Lake somewhere if possible. On the other hand, I should take the banding kit back with me to check and I can hang on to the computer for the moment.

Clarification of "Financial requirements" from my letter of September 12, 1995:

The "ideal" personnel situation would be:

Spring - April 3 to June 11 (ten weeks) - at least one fully experienced bander/birder present each day ("Senior Field Assistant" or contracted "bander-in-charge")

- 70 days in total, out of which 30 days will be covered by the senior field assistant leaving 40 days to be covered by contract.

- May 1 to June 11 - at least one additional partly experienced assistant present each day

- 42 days in total, out of which six weeks (30 days) will be covered by the second field assistant leaving 12 days to be covered by contract.

- May 20 to June 2 - a second assistant to be contracted in addition to the two personnel described above (a total of 14 days).

This matches the contracted totals of 40 days for "bander-in-charge" and 26 days for assistant given in the letter.

Fall - July 10 to October 1 (12 weeks) - at least one fully experienced bander/birder present each day ("Senior Field Assistant" or contracted "bander-in-charge")

- 84 days in total, out of which 28 days will be covered by the senior field assistant leaving 56 days to be covered by contract.

- July 10 to Sep. 3 - at least one additional partly experienced assistant present each day

- 56 days in total, out of which 28 days will be covered by the second field assistant leaving 28 days to be covered by contract.

- July 24 to August 20 - a second assistant to be contracted in addition to the two personnel described above (a total of 28 days).

This differs somewhat from the totals presented in the letter of September 12 due to errors in counting the days as a result of the haste required in getting the letter to you in time for it to be considered.

The remainder of the employed field assistants' time (June 12 to July 9 and twelve days between July 10 and August 8, for a total of 32 days) will be taken up by the MAPS project. Together with the 58 days described above, this comes to 90 days - the full complement for 18 weeks of work.

Revised financial requirements for the monitoring/research activity for LSLBO

Financial requirements - personnel

My recommendation is for a rate of $9 per hour for the senior Field Assistant position (this would have to be filled by someone who is already fully trained) and $7 per hour for the assistant (this would likely be someone who would require substantial training). The rates for additional field personnel would be flat rates (regardless of what the payment is termed) of $80 per day for the "Bander in Charge" if the Senior Field Assistant is not present and $60 per day for anyone assisting either the Senior Field Assistant or the "Bander in Charge". This would work out as follows:

Employed personnel

Senior Field Ass. - $9 X 40 hrs X 18 wks = $6480 + 10 % (UIC CCP etc.) =	$7128
Field Assistant - $7 X 40 hrs X 18 weeks = 5040 + 10 % (UIC CCP etc.) =	$5544
Travel expense - $37.50 per week X 18 wks X 2 persons =	$1350
Total (approx.)	**$14000**

Contracted personnel

"Bander in Charge"	- Spring - 40 person-days X $80 per day =	$3200
	- Fall - 56 person-days X $80 per day =	$4480
Assistant	- Spring - 26 person-days X $60 per day =	$1560
	- Fall - 56 person-days X $60 per day =	$3360
Total		**$12600**

Financial requirements - additional research activity costs

Lab and equipment upkeep (primarily mist-net replacement)	$1400
Insurance	$600
Administration costs (phone, printing etc.)	$400
Field supervisor (contracting someone to coordinate field personnel etc.)	$1000
Total	**$3400**

Stefan

The grand total for the field operations (not including the cost of running the organization or any costs associated with the interpretive programs) would be **$30000.**

Realistically speaking, a total of $20000 in 1996 would ensure that field coverage remained at least as complete as in 1995. This could be accomplished by reducing contracted personnel costs to $3600 and reducing equipment upkeep (for 1996 only!) to $400 since we now have 6 new unused nets in stock. Continuity (attempting to have every day covered) during the main part of spring and fall migration would be the prime objective in scheduling employees and contracted personnel (as I accomplished in the 1995 season) at the cost of early spring, late fall and third field person contracts.

In the case of the LSLBO agreeing to pursue a $20000 field operations cost for 1995 I would like to revise the proposal I made in my letter of September 12 to read:

An agreement (contract) between myself and the LSLBO that I would

1) Raise a minimum of $20,000 through grant applications and corporate sponsorships (ie write the proposals for the LSLBO to submit) including those described above.

2) Oversee and train the employed and contracted field personnel for the summer.

3) Prepare the financial records for the employees and take care of any paperwork required for the employment and contracts.

4) Prepare and submit reports required by the granting agencies etc., submit banding records to the Bird Banding office, provide timely reports for the newsletter and a final year-end report on the field activity that would constitute a major portion of the Annual Report.

5) Accomplish **20 days** of field work between April 1 and Oct 1. (with the options of "sub-contracting" up to **10** of these days out to other qualified field personnel **or increasing the number of field days at a rate of $75 per day if sufficient funds are available).**

6) Ensure that the field station is properly set up for the research activity (not including major renovations, some of which still have to be done) and procure necessary items as needed with funds provided from the LSLBO (outside of this agreement).

7) Receive a total of **$2500** from the LSLBO as financial compensation for the time spent on the project. This figure could be revised upward or downward proportionately to the amount of funds raised. However, in order to go ahead with major fundraising attempts, I would need to be guaranteed a minimum amount of $1000 to accomplish all of 2) to 6) above but with only 10 days of field work being required in 5), regardless of the amount of funds raised in 1), unless no paid field personnel are active at the station in 1996.

This incident indicates the need to stress conservative net use during migration, preparation for adverse weather conditions and the operation of only as many nets as can be sufficiently handled with the manpower present. Also, impromptu public banding demonstrations must take a lower priority to dealing with net clearing and banding considerations during busy times. The first priority must always be the safety of the captured birds.

Three weasel predations and four hawk predations occurred during fall migration. Although the weasel predation was a one time occurrence during the season, sharp-shinned hawk predations were and continue to be an ongoing concern, especially during the fall period, when large numbers are present.

12 deaths occurred due to natural causes and/or stress, four to cold exposure and/or stress, three broken leg injuries, and one injury due to sharp shinned hawk predation.

Equipment

1. Bands

Bands used during the 1995 field season up to August 31 for Migration Monitoring include the following:

Size 0:		1792
Size 1:		714
Size 1B:	316	
Size 1A:	24	
Size 2:		16
Size 3A:	3	
Size 3:		10

Bands used during the M.A.P.S period include the following:

Size 0:		88
Size 1:		68
Size 1B:	55	
Size 2:		1

The incorporation of the new recommended band sizes into future field seasons will require that more size 1 bands be ordered than was previously. I would suggest approximately 500 more than what was utilized this year (ie. we ran out of size 1's during the Myrtle migration, the great majority had to be banded with size 0's).

In preparation for next year, I would suggest having the following number of each band type on hand:

2500	0's
1500	1's
700	1B's
100	1A's
100	2's
20	3's
20	3B's
20	3A's
10	4's

LSLBO experimented with a string of the new, preopened size 0A bands. We found the bands to be inconvenient and difficult to work with. Although, on a few species such as the American Redstart, the 0A bands did have a better fit than the size 0's because of their slightly smaller size.

As well, the new size of 1C bands were utilized. No problems were associated with the bands and were preferable for many species because of their reduced size.

2. **Bird Bags**

The LSLBO was in great need of additional bird bags for the 1995 field season. The plan for donated bags to arrive, prior to, or shortly into the field season did not materialize. Thus, Stefan Jungkind purchased 35 new bags on May 22. With the additional bags received, numbers were sufficient for the manpower that was available. However, the purchase or donation of more bags would be desirable for backup purposes, in future.

3. **Net Poles**

Enough poles were purchased to furnish all three M.A.P.S sites and Migration Monitoring net lanes simultaneously. Because poles no longer had to be hauled daily from site to site, M.A.P.S banding was made considerably less physically demanding and resulted in significant time savings.

4. **Nets**

7 nets were damaged during the field season due to wildlife activity with one or two nets beyond repair. One openly visible net disappeared from the Migration Monitoring banding site. It is believed to have been stolen since no trace of animal activity or damaged net around the net lane was evident. We believe that the majority of nets damaged were due to bear activity and that the smell of birds left on the nets is an attractant. Staff spent a considerable amount of time repairing damaged nets during the field season. Further minor repairs are still needed on several nets prior to the start of the next field season to ensure maximum capture rates.

A set of new nylon mist nets were sent to the station during spring migration. Four of the nets were set up but proved to be problematic. The mesh was coarse, causing leg abrasions and extreme tangling. It was also difficult to clear the mesh from the abdomen and breast (ie. the bodies were being pulled further through the mesh than the other nets) due to a larger mesh size. Thus, the nets were removed after one day in operation and the source of the problems were investigated by BBO members. Currently only one new Avinet remains for new backup nets. Although we have our repaired nets for backup, new nets should be purchased for next year.

5. **Spike and Sledgehammer**

A spike and sledgehammer were purchased for the LSLBO this season and proved useful on many occasions when ground conditions were dry.

6. **Electronic Scales**

A large and small electronic scale were purchased and used during the 1995 field season allowing greater accuracy in weight measurements than that offered by the spring scale. Unfortunately, batteries had to be replaced in the scale approximately every third day. Over the long term this could be costly. If the solar panel will provide the necessary power to operate the scale, battery expense will be reduced or eliminated. A suggestion is to purchase rechargeable batteries for backup when the solar panel is unavailable.

7. **Computer**

The portable computer proved to be a great asset for the LSLBO. Field staff were able to complete the banding data entry for both the 1994 and 1995 field season.

8. **Portable Radio**

The hand held radio purchased for the LSLBO came in handy for communication between the Lesser Slave Lake Provincial Park and LSLBO

staff, even though the operation of the radio was problematic on a number of occasions. Staff were provided with a second radio, owned by the LSLPP, during the initial part of the season, thus ensuring communication between both field staff. However, during the period of severe northern fires, the radio was reclaimed and a replacement was never provided. Thus, for the majority of the field season, LSLBO staff had access to only one radio. For safety reasons, especially with the large amount of bear activity evident at the banding site, and during busy times when quick communication is crucial, another radio should be guaranteed for use by LSLBO staff in future.

9. **Equipment Needed**

A large wing chord ruler for hawks is needed for next year. An extra small wing chord ruler and two new tail measurement rulers would also come in handy so that two banders can take measurements simultaneously during busy times. If the preopened size 0A bands are used in future, another set of pliers should be purchased. Also needed is a skulling light.

Suggested equipment for next year also include a Stevenson screen, plant, bird and mammal identification books and a heater. Miscellaneous items such as binders, twine, tape, pens, clipboards, flagging tape could also be used.

Facilities

1. **The Building**

The addition of a building to the LSLBO for banding and storage improved working conditions and overall efficiency in 1995. Through volunteer support, improvements in the form of shelving, windows, and doors were made early in the field season. Unfortunately, due to a lack of appropriate lighting and a release hatch, the building was not frequently used for banding. The installation of another window and the utilization of a solar panel should solve the lighting problem. The construction of the release hatch has been made a priority and should be available for the next field season.

2. **The Washroom**

A portable toilet was installed on May 17. Plans to install a permanent facility are ongoing. Construction had been planned for the end of the field season but did not proceed as scheduled.

3. **The Residence**

A trailer was set up at the ranger residence at Marten River to accommodate the LSLBO staff. The one bedroom residence provided running water, power, bathroom and kitchen facilities. Although no phone was installed, phone service was provided via the residence shop telephone when needed. Although some problems were experienced with the heating, overall use of the residence was satisfactory.

Personnel

Interviews were conducted during the last week in April for the Lesser Slave Lake and Beaverhill field assistant positions. Four applicants were interviewed and an assistant was chosen for the LSLBO position. However, the day prior to his scheduled starting date he declined the position due to personal reasons. Fortunately, Colleen Johnston who had a keen interest in the observatory and later became our strongest volunteer for the remainder of the season, was contracted to the position until a new field assistant could be found.

Sherrilynn Lessard was hired as the new field assistant and commenced work on May 15th. Unfortunately, Sherrilynn had no previous birding

knowledge or field experience upon starting the job. However, Sherrilyn proved to be a hard and dedicated worker who spent a great deal of her own time studying bird identification and bird calls. Her enthusiasm and hard work continued throughout the field season, at the end of which she became efficient in both banding and identification. Unfortunately, Sherrilynn had to end the field season early on August 17 due to prior commitments upon her hiring.

Staffing difficulties arose on July 27 and 28 when Sherrilynn injured her leg during her day's off. However, through volunteer support and some stressful last minute organization and flexibility by Stefan and I, we were able to continue with the M.A.P.S. program as scheduled. Although Sherrilyn was forced to wear a leg brace for the remainder of the summer, she managed to handle the physical demands without much difficulty for the remainder of the term.

Steve Lane, Kevin Hento, and Matthew Smith were contracted to work alternately throughout the remainder of August and into September. Through some clever scheduling by Stefan Jungkind, the LSLBO managed to have field staff employed daily for the entire month of August and the majority of September, proving beneficial in capturing the full effect of fall migration.

Volunteers

Volunteer support increased over the 1994 season. Colleen Johnston, who provided her support through both volunteer and contract work on 42 separate days during the field season, was our primary volunteer and deserves special recognition. In addition to Colleen, other volunteers lent their much appreciated support during the field season including Debbie Strickland, Kellan Sunderland, Jerry Sunderland, Ann Zuberbier, Melanie McLaughlin, Cheryll Dash, Carla Otto, Andrew Lukat, Aaron Lehman, Jason Duxbury, Gordon Frith, Rainer Ebel, Stefan Jungkind, Steve Lane, Jeff Ingram, Rachel Amores and Laura Blonski. Recognition should also be extended to those members of the BBO who donated their time for performing hikes at the Songbird Festival.

In addition to the above, a number of other volunteers put in a substantial amount of personal time organizing the songbird festival and improving the building including Marion and Ian Whitby, Ian and Colleen Johnston, Al Degroot, Frank Fraser, Dan Tarney, Kevin Stephenson, and Roxanne Anderson. Special consideration should be given to Stefan Jungkind and Frank Fraser who spent a lot of their own time taking care of administrative details and for providing ongoing support to myself throughout the summer so that the successful operation of the station could be ensured.

As acting volunteer coordinator for the field season, I scheduled times for volunteers, school groups, and other interested parties to visit the LSLBO. I found this setup to work well and recommend that one of the field staff continue to assume this duty in future. This would help to ensure that staff are on site and are banding when volunteers wish to attend.

Overall volunteer involvement was impressive, yet there is definitely room for increasing support. If the existing volunteers maintain their interest in the project in upcoming years, they will provide invaluable support, especially as their experience increases and their skills improve.

Interpretation

A number of large groups attended the Lesser Slave Lake Bird Observatory for formal demonstrations throughout the season.Excluding volunteers, the LSLBO had approximately 815 visitors (including large groups) during the period between April 29 to August 31. Formal scheduled demonstrations were offered on the majority of Thursdays and Saturdays at 10:00 a.m. during the entire field season. Informal, impromptu demonstrations were also offered on a continual and demand basis. Visitors were from a combination of local (Slave Lake), regional (Kinuso), provincial (Rocky Mtn. House, Edmonton, Calgary), and international areas (Illinois, England), and ranged from families seeking an entertaining and educational experience, to avid birders striving to broaden their life list.

LSLBO hosted its first annual 'Songbird Festival' on May 20-21 with approximately 275 people in attendance. The event offered banding demonstrations and birding hikes performed by LSLBO staff and BBO volunteers to the attending public. Also featured was a dinner, waterfowl art auction, and guest presentation by Dr. James Butler, renowned conservationist and professor from the University of Alberta. A separate committee was organized by local Slave Lake volunteers to plan the event. Overall, the Songbird Festival was considered a success and plans are to continue hosting the festival as an annual event.

A number of large groups attended the Lesser Slave Lake Bird Observatory for formal demonstrations throughout the season. On April 29, a formal demonstration and hike was provided to the H. Gish School of St. Albert, AB, with 70 in attendance. On May 31 a formal banding demonstration was also provided to three biology classes from the Roland Michener High School of Lesser Slave Lake for a total of 67 people in attendance. A demonstration was provided to a Lesser Slave Lake church organization on June 3 and 4, with approximately 45 people in attendance. Seventy five international Weyerhauser executives were provided with a site tour and presentation by Frank Fraser of the Lesser Slave Lake Provincial Park on June 22. Fifteen Junior Forest Rangers attended the LSLBO for a demonstration on June 28. In return for the demo, they provided their volunteer services to the clearing of trails at the M.A.P.S sites. A display and informal presentations were offered to approximately 40 people during the Park's day celebration.

The assignment of interpretive duties in 1995 was dramatically altered from the 1994 field season resulting in the virtual elimination of problems experienced in 1994. Rather than utilizing the LSLBO field staff to perform interpretive hikes, amphitheatre presentations, and some banding demonstrations, a separate contract position was negotiated and offered to Steve Lane, who performed these duties on a scheduled basis. This left field staff with the interpretive responsibility of on-site formal and informal banding demonstrations. From my perspective, this setup worked very well on most occasions and is recommended in future years.

The Lesser Slave Lake Provincial Park provided an interpreter on Thursdays to meet and bring visitors to the area of banding. This proved very helpful, especially during M.A.P.S banding, when it would often be inconvenient and time consuming, due to travel time, for staff to assume this duty. Unfortunately, an interpreter was not available to perform this duty during Saturday demonstrations. Although most Saturday demonstrations were manageable, the extra person would have been useful. On special holidays, when park visitation and therefore demonstration

attendance is expected to be high (ie. long weekends) it is recommended that the park try and arrange for an interpreter to be in attendance, based on our high attendance records during this field season.

Overall, the public interest and response to the Lesser Slave Lake Bird Observatory has grown substantially over last year. My discussions with the majority of visitors to the LSLBO left me with the impression that most had felt that the LSLBO offered a truly unique wildlife experience. I believe that an excellent opportunity exists to further develop a quality interpretive package with a conservation message; a message that will leave future visitors, especially children, with an opportunity to increase their knowledge of birds and their habitat, and in general, develop a stronger connection to the natural world. The increased public support will only benefit the progression towards greater protection of our migratory bird species.

Safety

Bears were a major concern for LSLBO staff during the entirety of the field season. Close sightings were encountered frequently during the spring and early summer months and often daily during the month of August. None of the bears encountered behaved aggressively. Although a couple displayed extreme curiosity and lack of fear, most were frightened away by our human presence.

I would strongly recommend in future that two people work together at all times, or at the least while checking nets during M.A.P.S. banding, point counts or vegetation analysis. Because the shrub layer reduces visibility to a great extent and frequent winds disrupt the ability to forewarn wildlife of human presence, close bear encounters are sometimes unavoidable, regardless of the precautions taken by staff members to avoid such encounters. I would also strongly suggest that the Lesser Slave Lake Provincial Park continue to offer future staff members and committed volunteers the bear awareness and safety review that was offered to the 1995 field staff. We found the review to be very valuable and applicable.

On May 15, staff and volunteers were alarmed by the shrill of a cougar mating call close within the LSLBO area. Another frightful experience occurred on June 4 when a cow moose went into a frenzy near the lab while protecting her calf. Needless to say, the security of the lab came in handy during these encounters.

Operational Changes in 1995

1. Census trail

A major change in location of the census trail was incorporated into the fall migration period upon consultation with Stefan Jungkind. Rather than censusing along the original trail which ran through the M.A.P.S. ROAD site, a 40 minute census was conducted along the Freighter Lakeshore Trail. The census began at the t-intersection and was finalized at the opening to the FAWA banding site, a distance of approximately 3/4 kilometres. Five minute stationary observations were made at the t-intersection, along the F.L.T. in front of the banding lab, and at the openings to FEGU and FAWA, with approximately five minutes in travel time between the first three points. This resulted in a 35 minute timed walk and five minutes of leeway time.

The change in the census route was positive in many respects. With the original trail, we found that little to no obvious, discernible migration was occurring through the area, and therefore the primary objective for

censusing during migration was being missed. The new census trail increased the amount of visibility to a great extent, allowing the number of visible migrations to increase. Waterfowl and shorebirds could be observed to a greater extent than the previous trail. In addition, it provided a safer environment for the censuser, in terms of potential wildlife encounters (ie. one person rather than two could perform the census with safety). Although, a minor detail, it is also a simpler route for volunteer or contracted banders who are unfamiliar with the LSLBO environment to follow and perform with accuracy.

There were also some negative aspects associated with the new route worthy of mention. The new trail censuses through fewer habitat types potentially resulting in a lower diversity of species. As well, less vegetative cover and increased closeness to lake resulted in an increase in wind exposure, negatively affecting the bird activity along the trail and therefore the number of birds observed (although this was also experienced to a lesser degree along the previous census route). Overall, I believe the new trail would provide a better sampling of species than the previous census trail. The positive outcomes of the new trail far outweigh the negative components.

2. **Layout of ROAD Station**

In consultation with Jason Duxbury, changes in the layout of the ROAD station were incorporated into the 1995 season. The land area was increased by rearranging and spacing out net lanes throughout a larger area, in an effort to better represent the area requirements suggested in the M.A.P.S. manual.

3. **Migration Monitoring Prior to Cessation of M.A.P.S Banding**

Another change was the operation of migration monitoring during the latter half of the M.A.P.S. season, on days when M.A.P.S. banding was not in operation. Migration monitoring banding was initiated on June 17 in 1995 versus July 31 during the 1994 season.

4. **M.A.P.S Banding Periods**

The 1994 M.A.P.S. program was initiated during the periods of June 10-19 (period 5) for 2 of the 3 stations (FAWA banding started during period 6 because the station was not yet physically cleared for banding), and ended with the July 20-29th period (period 9) for 2 of the 3 stations (MAPS banding was terminated after banding at ROAD during the 10th period because of the initiation of migratory activity during that period). Through 1995 correspondence with D. Desante of the Institute for Bird Populations, it was confirmed to be crucial to the success of the MAPS program to run at least 6 periods, in order to ensure three 10-day periods during which primarily young birds are captured and three 10-day periods when primarily adult birds are captured. Thus, the 1995 M.A.P.S field season was initiated during period 5 (June 10-19) and ended with period 10 (Jul. 30-Aug 8), for all stations.

Operational Problems and Suggestions

One of the issues brought up by several of the banders that worked at the LSLBO this year was the need to reduce the amount of information recorded for banded birds. The system of information-taking needs to be refined. Currently it is taking too long to process birds and is unnecessarily contributing to undue stress and increased mortality. My suggestion would be either to eliminate uncritical information (ie. eliminate Pyle, possibly moult, fat) altogether, in consultation with other observatories, or to establish priorities, in writing, as to what type of

information should be recorded during busy, moderately busy, and slow banding periods.

I found it somewhat frustrating trying to maintain consistent use of nets throughout the migration monitoring periods. Guidelines should be incorporated into the banding manual as to what the LSLBO's priorities are regarding a system of net rotations during busy times, when the operation of 12 nets becomes impractical.

To successfully practice the above suggestion and the operational procedures of the station, I would strongly suggest requiring all banders to review the manual prior to banding at the LSLBO. I think this would help greatly in maintaining more consistent operation of the station when volunteer or contracted banders cover the regular field staff.

Problems were experienced trying to accomplish visible migration counts during peak migration periods. Presently in the LSLBO manual, it states that visible migration counts should take priority over banding. During busy times, it was often impossible to complete these counts on a regular basis with the manpower available, especially during spring migration, when the field assistant was in training. The suggestion to close the nets to complete the counts seems somewhat impractical and costly with regards to the time involved in opening and closing nets prior to performing the count and processing captured birds during busy periods. Although I feel the counts are very important in terms of determining approximate numbers and species on migration, I feel a more practical approach should be considered.

My first suggestion would be to stop performing the separate visible migration counts altogether. The design of the new census route incorporates a 40 minute visible migration count into the actual census. Although the counts would be limited to only one per day, it would seem reasonable, considering that the visible migrations were on many occasions found to be at a peak approximately the same time as the census was being performed. The number of visible migrations seemed to decrease as the morning progressed, often to the point where the number of birds visibly migrating on a count were very low to non-existent. Limiting the visible migration count to the census would also be beneficial by reducing the processing time of the captured birds, thus, helping to ensure mortality rates are kept at a minimum. Should this not seem reasonable, my second suggestion would be to place less priority on the count than what is presently expressed in the LSLBO manual, and to change the location of where the count is performed, ie. along the Freighter Lakeshore Trail in front of the lab versus the present location of the t-intersection. This would result in a reduction in travel time to and away from the counts, and therefore less time expenditure in performing the counts, as well as less interference with traffic and members of the public who often utilize the t-intersection area.

Lesser Slave Lake Bird Observatory
Spring Migration Monitoring Summary for period of April 29 - June 9, 1995
By Lisa Zuberbier, LSLBO Senior Field Assistant

Number of Birds Banded

The spring migration monitoring field season began on April 29, 1995 to a slow start. Few species were banded (below 10 prior to May 5) except for a few early migrants and resident birds such as American robins, slate-coloured juncos, ruby-crowned kinglets, black-capped chickadees, American tree sparrows, and fox sparrows. Larger numbers of species banded were evident starting May 5, and continually increased througout the month to a peak banding number of 93 on May 31. Peak migration for the spring season occured from approximately May 28 to June 1 (with banding numbers of 64, 61, 65, 93, 55 respectively throughout the 5 day period), suggesting a later, shorter and slower banding season in comparison to 1994 (peak migration occured from approximately May 23 to May 29 with banding numbers of 63, 111, 62, 88, 74, 41, 36 respectively).

Numbers of Species Banded

Numbers of species banded varied throughout the spring migration season. The lowest numbers occured on April 29 with 0 species banded to a high of 18 on June 1. For the most part, numbers of species banded remained below 10 prior to May 22, which then saw numbers remain variable between 10 and 18.

Species Migrations and Dates

Species migrations are listed below in date order, and are based on peak numbers of the species banded on a specific day. Only one major species migration is evident, that of the least flycatcher, as evident below.

Species	Date	Number of Species Banded
Slate-colored junco	May 5	20
American tree sparrow	May 5	8
Myrtle warbler	May 11	14
Orange crowned warbler	May 11	9
White throated sparrow	May 12	9
Swainsons thrush	May 23	7
American redstart	May 31	21
Least flycatcher	May 31	48
Canada warbler	June 1	8
Common yellowthroat	June 4	5
Red eyed vireo	June 5	6
Alder flycatcher	June 9	10

Other migrations evident through observations (excluding species banded) include the following. Again, species migrations are listed below in date order, and are based on peak numbers of the species sighted on a specific day.

1995 LSLBO Spring Migraton Monitoring Banding Totals
(excludes retrap species)

Species	Total
Yellow bel. sapsucker	4
Yellow-bel. flycatcher	3
Traill's flycatcher	1
Least flycatcher	168
Alder flycatcher	68
Eastern phoebe	1
Gray jay	1
Black-capped chickadee	5
House wren	1
Ruby-crowned kinglet	3
Gray-cheeked thrush	1
Swainson's thrush	45
Veery	4
American robin	12
Cedar waxwing	1
Warbling vireo	1
Red-eyed vireo	16
Philadelphia vireo	1
Solitary vireo	1
Tenessee warbler	9
Orange-crowned warbler	16
Yellow warbler	33
Magnolia warbler	9
Chestnut-sided warbler	1
Bay breasted warbler	1
Myrtle warbler	40
Western palm warbler	5
Bay breasted warbler	1
Blackpoll warbler	2
Black and white warbler	13
Black throated green warbler	1
American redstart	118
Ovenbird	3
Northern waterthrush	15
Mourning warbler	18
Common yellowthroat	29
Wilson's warbler	7
Canada warbler	25
Rose-breasted grosbeak	5
American tree sparrow	15
chipping sparrow	8
Clay-colored sparrow	21
Savannah sparrow	4
Song sparrow	7
Lincoln's sparrow	24
Swamp sparrow	14
White-throated sparrow	94
White-crowned sparrow	7
Harris sparrow	1
Fox sparrow	4
Slate colored junco	27

Red-winged blackbird	1
Brown-headed cowbird	1
Total species banded:	916

Species	Date	Number (approx. # seen)
Sandhill cranes	April 30	300
American robin	May 2	30
Tundra swans	May 2	47
Greater white fronted geese	May 4	785
Northern flicker	May 4	44
Dark eyed junco	May 4	36
American tree sparrows	May 4	27
Myrtle warblers	May 11	21
Blackbird sp.	May 11	225
Franklin's gulls	May 16	290
White throated sparrows	May 17	29

Species of Interest

The highlight of the season was the banding of a black-throated green warbler on the last banding day of the spring migration monitoring program. BBO records from 1992-1994 indicate only one previous banding in 92, of this species. Other highlights included the banding of a Harris sparrow (no previous records within the 92-94 period!), a grey cheeked thrush (a thrill for many at the Songbird Festival), a bay breasted warbler (no 92-94 record), a gray jay (no 92-94 record), 4 fox sparrows (only 1 banding record from 94), 4 veerys (1 record from 93), a blackpoll warbler (uncommon at LSLBO), a brown headed cowbird and red winged blackbird (not exciting, but a 1st for LSLBO), a solitary vireo, Philadelphia vireo, and a warbling vireo (these 3 vireos appear to be present in low numbers at LSLBO).

Some of the interesting species sighted during migration included a western meadowlark (no, we weren't hallucinating!), pileated woodpecker, Barrow's goldeneyes, 2 evening grosbeaks, snow buntings, bank and cliff swallows, and double-crested cormorants.

Casualties

Unfortunately, casualties are a part of any banding operation. However, numbers of injuries and deaths were minimal throughout the spring migration period. In summary, 1 known case of predation occured, 2 self-inflicted deaths occuring in the net, and 2 deaths from natural causes and/or stress. 6 notable injuries occured. Casualties are described below.

One obvious case of predation occured on what we think was a Swainsons thrush (only remnants of the body were left in the net). The carcass was found in a top pocket of the net. The predator was believed to be a Sharp shinned hawk, based on our sightings of them around the nets thus far this season. A dark eyed Junco was found strangled in the net. A white throated sparrow was found dead in net with no sign of predation. A least flycatcher was found dead in net from a punctured throat. A banded American redstart was found deceased around the lab.

A few cuts and injuries occured. A fox sparrow was found with a punctured neck in the net. A palm warbler found in the net had a deep cut on his neck. A white-throated sparrow had a badly cut leg. Injured birds were released immediately, unbanded. 3 serious leg injuries occured. The legs of 2 least flycatchers were badly broken and believed to be likely unable to set properly on their own. One of the injuries was believed to have occured prior to entering the net, as it was found with a mutilated foot (an old injury with no sign of fresh blood). The other injury is believed to be due to movement in the net. A final leg injury with a common yellowthroat was believed to occur from a combination of wrong band size and movement in the net. In all cases, the injuries were severe enough to snip off with scissors, as recommended in the banding manual as the most humane way to deal with severe breaks, and were immediately released unbanded (it should be noted that the literature indicates that bird species can survive successfully in the wild with only 1 leg).

Interpretation: Activities and Demonstrations

LSLBO hosted its first annual 'Songbird Festival' on May 20-21. The event was considered a success with an approximate attendance of 300 people (a mix of local and regional visitors). Banding demonstrations and birding hikes were provided by staff and volunteers of the LSLBO and BBO. Plans are to continue hosting the festival as an annual event.

A formal demonstration and hike was provided to the H. Gish School of St. Albert, AB on April 29, with 70 in attendance. Unfortunately, it was simply too early in the season for any migratory activity. As a result, the group's experience was hampered by the lack of species observed (ie. no species were banded, only a very few species were observed). The group leader was prewarned of the expectations but insisted in following through with the visit. However, the group was provided with an opportunity to see the observatory and gain some insight into the LSLBO, its activities, and it's purpose.

A formal banding demonstration was also provided to 3 biology classes from the Roland Michener High School of Lesser Slave Lake on May 31. 3 separate demonstrations were given to a total of 67 people in attendance. Unfortunately, the demonstrations were offered on our busiest day of the spring migration season. I recommend in future to contact Aaron Lehman, the high school biology teacher, to try and arrange a more suitable time (well outside the peak migration period) early in the season, as it will likely become an annual visit (demo's were also given last year to the same classes).

A final formal demonstration was provided to a local family church group staying at the Lily Creek group camp on June 3 and 4. Approximately 45 people were in attendance within the 2 day period. Demonstrations ran smoothly.

A number of banding demonstrations were given to casual visitors throughout the spring migration season. Visitors were from a combination of local (Slave Lake), regional (Kinuso), provincial (Rocky Mtn. House, Edmonton, Calgary), and international areas (Illinois, England), and ranged from families seeking an entertaining and educational experience, to avid birders striving to broaden their life list. Visitor numbers are expected to increase throughout the season. Demonstrations will likely be offered throughout the

MAPS program, providing that an additional person is present to lead visitors 'to' and 'away' from the MAPS sites.

Volunteers

Three volunteers offered their support througout the spring migration season. Colleen Johnston offered continual and invaluable support during the majority of the migration period and during crucial times. She deserves special recognition as our 'number 1 volunteer'.

Interest in volunteering has increased over last year. A number of people have expressed interest in offering their support and have been encouraged to help out. I have been asking them to contact myself prior to coming out to the station to ensure that banding or other activity will be occuring on the day they wish to volunteer and ask that anyone interested in volunteering, in future, contact myself as well. Sherrilynn and I are in the works of making it easier for volunteers and visitors to find us,on their own during the MAPS period, when often we are not visible to the public and not easily found.

Safety

A number of bear sightings have been made within the Lily Creek area near the banding site. Fortunately, we have not had any confrontations to date. Radios and bear sprays are always carried by field staff. A bear awareness course is being given to staff on June 15. Bear scat has been sighted in various locations along the census trail.

A frightful incident occured on May 15, with what is believed to be a cougar visitation to the LSLBO. Staff were alarmed by the shrilling, horrific, very nearby screaming of 2 cougar mating calls during the taking down of nets. Another frightful experience occured on June 4 when a cow moose went into a frenzy near the lab, while protecting her calf.

Radios have proven to be useful for both safety measures and for use between field staff, and are utilized on a regular basis.

Concerns

One concern is the applicability of the visible migration counts. Although I agree that it is a useful sampling technique for determining numbers of species migrating throughout the area, it is a difficult technique to perform during peak migration when these counts are most relevant. My overall experience was that it was somewhat impossible to perform the counts during heavy migration times due to lack of time and manpower. Thus, information is lacking for the periods when visible migration numbers were most evident. Likewise, when banding numbers were manageable and time was allotted for v.m. counts, the numbers and species observed were few (most were resident species passing through or within the sampling area). My recommendation would be to discontinue the visible migration counts at the t-intersection, and perform the counts along the trail in front of the lab, whenever possible. During times when visible migrations are an impossibility during busy periods, I suggest trying to perform the counts, as best as possible, during the actual banding activity itself. Although, this too proves to be difficult at times, at least one is obtaining some sampling, which to me appears more accurate than no sampling at all. The other option would be to have the field assistant or volunteer perform the count, provided that they are capable of doing so.

We are in desparate need of nets-if not new ones, at least some for backup. On June 5, net 15 disappeared completely and its whereabouts are unknown. No trace of the net has been found around the net lane, making it unlikely that it was dragged away by a large animal. Thus, the conclusion is that it was likely stolen. Should this occur in the future, it may become necessary to take down the nets nightly during the migration monitoring season, when nets are visible to the public. We no longer have any 'usable' backup nets, should something else happen with our existing ones.

A set of new nylon mist nets were sent to us. 4 of the nets were set up to replace the Avinets and were in operation for a day. The nets proved hazardous to the birds that were being caught and a nightmare for the bird extrapolater. The coarse mesh was causing leg abrasions and species were becoming extremely tangled and difficult to remove. We also found that the mesh was difficult to clear from the abdomen and breast, ie. the bodies were being pulled farther through the mesh in comparison to the other nets (due to a larger mesh size?). Nets were removed the same night and re-replaced with the original Avinets.

One other suggestion for equipment, for future, would be to obtain some type of heating device, mainly for the purpose of warming hands to make banding and scribing on colder days less of a challenge.

Computer

Computer input is being performed on a daily basis and is up to date (long form information inclusive) for the 1995 field season. The portable computer has proven to be a solid investment.

Other

In preparation for MAPS, net lanes were rearranged and new lanes cut at ROAD site, in consultation with Jason Duxbury, to prepare a more improved and accurate sampling area over last year (the previous site was too small according to the MAPS standards and in comparison to the other sites).

Nets were repaired on a number of occasions. A suggestion would be to organise an annual net sewing bee with Slave Lake volunteers at the end of the field season, or prior to the new one, to ensure nets are in top shape for the new field season.