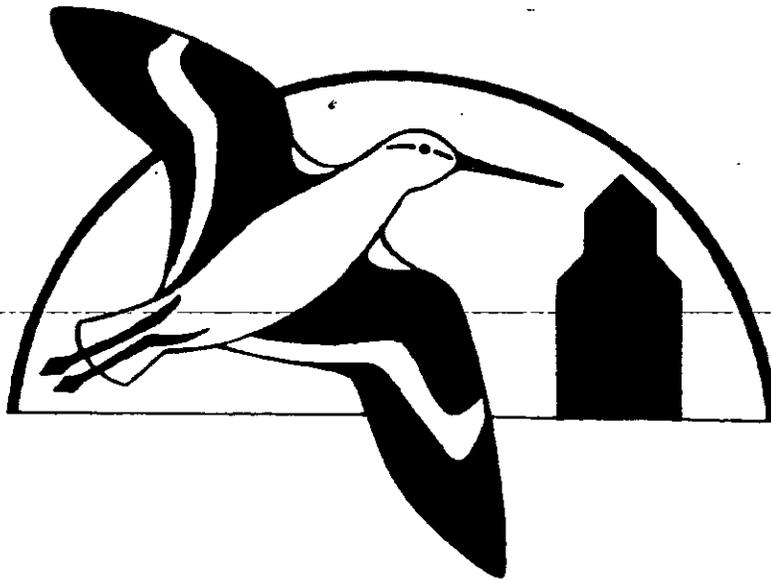


BEAVERHILL BIRD OBSERVATORY 1987



ANNUAL REPORT

BBO Report No. 5

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Section 1 Introduction

1.1 Location

The Beaverhill Bird Observatory (BBO) is located on the southeast corner of Beaverhill Lake (53 22 N, 112 30 W; NW 1 and SW 12 Twp 51 - Rge 18 W4) approximately 70 km south-east of Edmonton, Alberta.

1.2 Objectives

Objectives of the BBO were defined in 1984 as the following:

(a) to conduct studies of migrant and resident birds and other aspects of natural history, at Beaverhill Lake, in the Province of Alberta and elsewhere, and to publish the results of such studies;

(b) to make the facilities of the Observatory available to amateur and professional biologists and students who are carrying out appropriate observations and research work;

~~(c) to engage in educational activities related to the work of the Observatory;~~

(d) to promote the preservation and conservation of Canada's natural heritage with special emphasis on the Beaverhill area of Alberta; and

(e) to cooperate with organizations with similar objectives.

1.3 Operations and Achievements

The year 1987 was a year to be proud of for the Beaverhill Bird Observatory. At the instigation of the chairman, Rainer Ebel, many significant events came to pass (see section 1.4).

The observatory was operated for 190 days from March 29 to October 12, a significant increase from 25 days in 1985 and 107 days in 1986. A total of 511 visitors signed the guest book or were greeted by BBO personnel. Individuals hailed from as far away as Netherlands, Sweden, West Germany, Ireland, Texas, San Francisco and Nova Scotia. Bird banding and other project activities were demonstrated and explained to interested guests and scheduled tours groups.

The lab that was constructed last year was "finished" inside and out. A bunkhouse was also erected nearby.

Two students, Sheila Fazikas and Valerie Kerr, were employed by the Edmonton Natural History Society on funds received from the provincial government STEP program. They assisted the BBO by conducting tours, greeting visitors, carrying out field work and maintaining Observatory premises. Many thanks to the ENCH for administering these positions and contributing to living expenses.

1.4 Events through the year

- April 25 - Garage sale hosted by Jim and Sharon Faragini raised \$475.
- April 26 - Edmonton Bird Club (EBC) field trip to Beaverhill Lake led by Jim Lange.
- May 30 - Beaverhill Lake Breakfast and Banding demonstration.
- June 4 - Beaverhill Lake internationally recognized as Alberta's second RAMSAR site.
- June 11 - Wren tour, led by Michael Quinn.
- June 28 - BBO Bird Banding Breakfast
- July 25 - "Dog and Grog" Night at BBO.
- August 7 - BBO officially opened by the Honorable Don Sparrow.
A BBO sign and plaque commemorating the event were erected at the site. BBO was declared the non governmental Volunteer Steward for Beaverhill Natural Area.
- August 8 - First Annual Western Canada Bird Banding Workshop and Conference. 90 people registered.
- August 22 - BBO Bird Banding Breakfast.
- Sept. 27 - EBC field trip to Beaverhill Lake and BBO.

1.5 Projects and their coordinators

1.5.1 Core Projects

- a) General bird banding - Rainer Ebel
- b) Bird monitoring - Rainer Ebel
- c) Nest Records - Geoff Holroyd

1.5.2 Special Projects

- a) Grassland sparrow surveys - Roger Jones
- b) Habitat selection and polygamy in House Wrens - Michael Quinn
- c) Male parental care and monogamy in Tree Swallows - Peter Dunn
- d) Duck and raptor nest boxes - Karl Grantmyre

1.5.3 New Projects

- a) Prairie shorebird surveys program - Shirley Talavia (see section 3.1)
- b) Alberta Breeding Bird Atlas - Michael Quinn and Stefan Jungkind (see section 3.2)

Section 2 Bird Banding

2.1 Introduction

Refer to BBO 1986 Annual Report for a detailed description of methods and approaches to bird banding at the BBO.

There was a slight reduction in general banding efforts this year due to diversion of time toward opening ceremony and banding conference preparations. Mist-net capture rate was also lower than in 1986. Banding operations by Edgar Jones (EJ) along the east side of the lake were adversely affected by the July 30, 31 tornado related storms which damaged his mist nets. Thus, there were fewer birds banded by BBO and EJ in 1987 (1578 individuals of 59 species) than in 1986 (2065 individuals of 69 species). However, the number of "returns" at BBO increased.

2.2 Banding Schedule and results

2.2.1 General banding - mist nets

Mist-netting occurred on 38 days between April 6 and September 14 for a total of 1417 net hours (1805 in 1986). Efforts were greatest in May and August (Figure 1) while success rates varied weekly (Figure 2).

General banding took place either in the immediate vicinity of the lab or along the south shore of the lake nearby. Greater emphasis on shorebird netting attempts may have contributed to the overall decrease in birds per net-hour (37 birds/ 100 net-hours vs. 40 birds/ 100 net hours in 1986). Mist-netting along the shore is often less productive because of higher visibility and constant wind. In future years we will keep separate records of capture rates along the shore as opposed to in grass/willow/poplar habitat around the lab.

Mist-nets at BBO accounted for the banding of 452 individuals of 41 species (compared to 730 individuals of 50 species in 1986). In order of greatest to lowest numbers, the most frequently captured species were Least Flycatcher, Yellow Warbler, Clay-colored Sparrow, Traill's Flycatcher and Tennessee Warbler.

2.2.2 General banding - house trap

Between May 9 to June 18, the house trap was in operation 14 days and accounted for the banding of 45 individuals of 3 species (Red-winged Blackbird, European Starling and Brownheaded Cowbird). Effort and success equalled that in 1986 except for one less species trapped in 1987, Yellow-headed Blackbird.

2.2.3 Nest-site banding

Banding of young, as well as some tree swallow and house wren adults, at nest boxes and other nests found accounted for the banding of 864 individuals of 6 species:

Sharp-shinned Hawk	3	Tree Swallow	535
Cooper's Hawk	4	Barn Swallow	5
Northern Saw whet Owl	4	House Wren	313

Unfortunately, no attempt was made to band cliff swallows at Amisk Creek this year. This was the first break after six consecutive years of banding there.

2.3 Birds banded

Table 1 lists all species and numbers of birds banded at Beaverhill Lake in 1987 by both BBO personnel and EJ. Species banded for the first time at Beaverhill Lake by BBO have been underlined. Highlights for BBO included: Black-billed Cuckoo female with well developed brood patch, June 28; two Solitary Vireos in a net less than three feet from each other, Aug. 23; seven species of shorebirds including one Piping Plover, May 17; Baltimore x Bullocks Oriole integrade, May 30; and a family of 5 Loggerhead Shrikes and several American Kestrels banded by Doug Collister as a demonstration of the Bal-chatri trap during the banding workshop, Aug. 8, 9.

A noteworthy capture by EJ was a Western Sandpiper. This species is rarely identified in Alberta.

2.4 Retraps

Any bird captured that already has a band on its leg falls into one of three categories (North American Bird Banding Reference Manual):

- a) a "repeat" if the bird was banded in the same 10' grid block less than 90 days previously.
- b) a "return" if the bird was banded in the same 10' grid block more than 90 days previously
- c) a "foreign retrap" if the bird was banded in a different 10' grid block

The 1986 Annual Report followed Elliot McLure's Bird Banding where the term "recovery" is used for c) above. At present, this term is applied only to banded birds found dead whether banded locally or otherwise.

Table 1. Birds banded in 1987 at Beaverhil Lake by the Beaverhill Bird Observatory and Edgar Jones

SPECIES	BBO	E.J.	TOTAL	SPECIES	BBO	E.J.	TOTAL
<u>Piping Plover</u>	1		1	<u>Solitary Vireo</u>	2		2
<u>Semipalm. Plover</u>		3	3	<u>Red-eyed Vireo</u>	1	2	3
<u>Killdeer</u>	2	1	3	<u>Warbling Vireo</u>	19		19
<u>Lesser Yellowlegs</u>		2	2	<u>Philadelphia Vireo</u>	1		1
<u>Spotted Sandpiper</u>	1	1	2	<u>Tennessee Warbler</u>	21	16	37
<u>Semipalm. Sandpiper</u>	2	3	5	<u>Orange-crowned Warbler</u>	1		1
<u>Western Sandpiper</u>		1	1	<u>Yellow Warbler</u>	68	35	103
<u>Least Sandpiper</u>	19	1	20	<u>Magnolia Warbler</u>	2		2
<u>Pectoral Sandpiper</u>	2	2	4	<u>Myrtle Warbler</u>	3	9	12
<u>Still Sandpiper</u>	1		1	<u>Mourning Warbler</u>	1		1
<u>Long-billed Dowitcher</u>		1	1	<u>Common Yellowthroat</u>	1	1	2
<u>Sharp-shinned Hawk</u>	3		3	<u>Wilson's Warbler</u>	4		4
<u>Cooper's Hawk</u>	4		4	<u>American Redstart</u>	5		5
<u>Northern Sawwhet Owl</u>	4		4	<u>Rose-breasted Grosbeak</u>		1	1
<u>Black-billed Cuckoo</u>	1		1	<u>American Tree Sparrow</u>	8	4	12
<u>Downy Woodpecker</u>	1	1	2	<u>Chipping Sparrow</u>	2	1	3
<u>Traill's Flycatcher</u>	23	1	24	<u>Clay-colored Sparrow</u>	34	35	69
<u>Least Flycatcher</u>	110	58	168	<u>Savannah Sparrow</u>	8	11	19
<u>Eastern Kingbird</u>		2	2	<u>LeConte's Sparrow</u>		1	1
<u>Tree Swallow</u>	540		540	<u>Song Sparrow</u>		2	2
<u>Bank Swallow</u>	1		1	<u>Lincoln's Sparrow</u>	1		1
<u>Barn Swallow</u>	5		5	<u>Swamp Sparrow</u>		1	1
<u>Blue Jay</u>	1		1	<u>White-throated Sparrow</u>		1	1
<u>Black-capped Chickadee</u>	17	7	24	<u>Dark-eyed Junco</u>	2	1	3
<u>Red-breasted Nuthatch</u>	1		1	<u>Red-winged Blackbird</u>	59	1	60
<u>House Wren</u>	319	4	323	<u>Brown-headed Cowbird</u>	11		11
<u>Marsh Wren</u>		1	1	<u>Northern Oriole</u>	17	2	19
<u>Swainson's Thrush</u>		1	1	<u>Purple Finch</u>	7		7
<u>American Robin</u>		3	3	<u>American Goldfinch</u>	12	2	14
<u>European Starling</u>	11		11	<u>Total Individuals</u>	1359	219	1578
				<u>Total Species</u>	46	36	59

Table 2. Birds retrapped as "returns" in 1987 at Beaverhill Bird Observatory

<u>SPECIES/NO.</u>	<u>AGE/SEX</u>	<u>BANDED</u>	<u>RETURNED</u>
Least Flycatcher			
1630-05856	AHY/M	05/27/84	05/30/87
1750-41635	AHY/F	07/18/86	05/25/87
Yellow Warbler			
1700-53150	AHY/M	05/20/85	06/03/87
1700-53156	AHY/M	05/20/85	05/24/87
1700-53171	AHY/M	05/26/85	05/20/87
1700-53964	AHY/M	05/17/86	05/26/87
1750-41826	HY/U	08/23/86	07/20/87
Clay-colored Sparrow			
1750-53703	U/F	07/24/86	08/09/87
Savannah Sparrow			
820-28840	AHY/M	08/22/82	08/20/87
Red-winged Blackbird			
762-34131	AHY/M	05/18/86	05/10/87
762-34111	SY/M	05/20/86	05/25/87
762-34138	ASY/M	06/11/86	05/09/87
762-34139	ASY/M	06/11/86	05/09/87
921-19957	ASY/F	06/11/86	07/18/87
762-34122	AHY/F	05/17/86	05/10/87
Brown-headed Cowbird			
921-19955	AHY/M	06/01/86	05/10/87
921-19956	AHY/M	06/01/86	05/30/87
921-19962	AHY/M	06/18/86	05/22/87
921-19967	AHY/M	06/01/86	05/30/87
American Goldfinch			
1750-41620	U/U	07/01/86	06/14/87

Table 3. Birds retrapped as "repeats" in 1987 at Beaverhill Bird Observatory

<u>SPECIES</u>	<u>NO. OF INDIVIDUALS</u>	<u>AVERAGE NO. RETRAPS/INDIVIDUAL</u>
Alder Flycatcher	1	2.0
Trail Flycatcher	1	1.0
Least Flycatcher	15	1.1
Tree Swallow	1	1.0
Black-capped Chickadee	5	1.25
Warbling Vireo	1	1.0
Yellow Warbler	4	1.5
Tree Sparrow	2	1.0
Clay-colored Sparrow	3	1.0
Red-winged Blackbird	5	1.0
Baltimore Oriole	5	1.0
American Goldfinch	2	1.0
House Wren	2	1.0
Total	47	1.14

Table 4. Returns that repeated in 1987 at Beaverhill Bird Observatory

SPECIES/MO.	BANDED	1987 REPEATS
Black-capped Chickadee 1700-53921	1984	April 4, June 28, July 18
Red-winged Blackbird 921-19957	1986	July 18, July 20
Brown-headed Cowbird 921-19962	1986	May 22, May 29
921-19956	1986	May 30, May 31

Figure 1. Monthly mist-netting effort at Beaverhill Bird Observatory, 1987

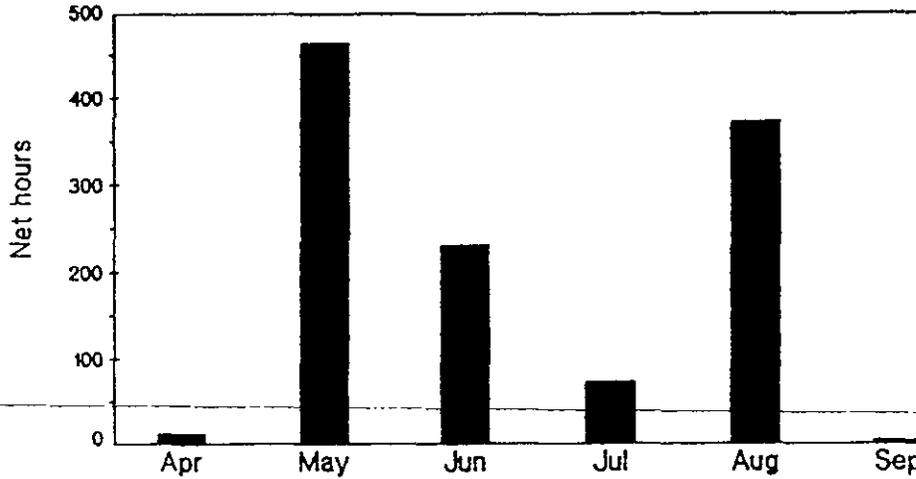
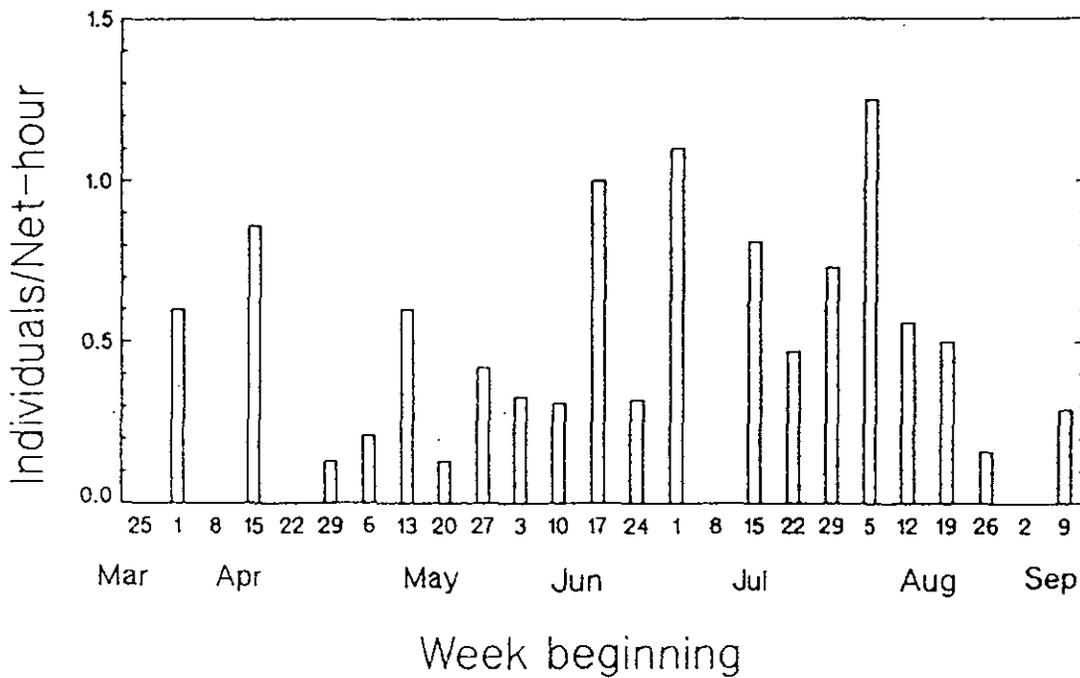


Figure 2. Weekly mist-netting success rate at Beaverhill Bird Observatory, 1987



Tables 2 and 3 give a detailed list of "returns" and a general list of "repeats" respectively for 1987. Table 4 lists those "returns" that repeated.

There was only one "foreign retrap" - a Least Flycatcher (1730 71327) which was banded by EJ July 23, 1986 along the east side of the lake (an adjacent 10' grid block to that of the BBO) and captured at the BBO on June 28, 1987.

Section 3 Bird monitoring

Refer to the 1986 Annual Report for a description of monitoring methods used by BBO.

3.1 Sight Records

Census results are listed in Table 5 in order of first, last and maximum number sighting for each species. Highlights of unusual species or exceptional numbers are underlined. Additional species that were recorded elsewhere around the lake (or for which we have no quantitative data or dates) include:

Common Loon	Purple Martin	Rose-breasted Grosbeak
<u>Goldeneye</u>	Boreal Chickadee	Fox Sparrow
<u>Whimbrel</u>	Black and White Warbler	<u>Ch.-collared Longspur</u>
<u>Western Sandpiper</u>	<u>Red Headed Woodpecker</u>	Rusty Blackbird
<u>Wh.-rumped Sandpiper</u>	Hairy Woodpecker	Brewer's Blackbird
<u>Sharp-tailed Sandpiper</u>	Olive-sided Flycatcher	Common Grackle
Belted Kingfisher	Say's Phoebe	Common Redpoll

Rainer Ebel and Jim Faragini reported roosts of 20,000+ blackbirds of various species at Lister Lake marshes in mid October.

BBO recorded a total of 170 species for the immediate Observatory vicinity compared to 168 for 1986. A total of 197 species were noted for the entire Beaverhill Lake area.

Table 6 lists results of shorebird surveys conducted as part of the Prairie Shorebird Surveys Program.

3.2 Nest records and Breeding Bird Atlas

Data for all nests, excluding tree swallow and house wren, for which detailed records were kept are listed in Table 7. A total of 123 nest record cards for 11 species including 87 for house wrens and 14 for tree swallows were submitted to the Prairie Nest Records Scheme in Manitoba.

In collecting data for the Alberta Breeding Bird Atlas, Michael Quinn and assistants Valerie Kerr and Sheila Fazikas also reported nests for the following species (nests were classified using Breeding Bird Atlas codes: ON occupied nest; NE nest with eggs; and NY nest with young):

Pied-billed Grebe NE
 American Bittern NE
 Gadwall NE
 Redhead NE
 Lesser Scaup NE
 Cooper's Hawk NY
 Swainson's Hawk NY
 Red-tailed Hawk NY
 Merlin ON
 Ruffed Grouse NE
 Sora NY
 Common Snipe NE
 Rock Dove ON

Alder Flycatcher NY
 Eastern Phoebe NY
 Cliff Swallow NY
 Black-billed Magpie NE
 Mountain Bluebird NY
 Veery NY
 Cedar Waxwing NE
 Red-eyed Vireo ON
 Mourning Warbler NE
 White-throated Sparrow NE
 Northern Oriole ON
 American Goldfinch NY
 House Sparrow NY

Eighty species have been confirmed as breeding in at least one of the two 10km squares covering the south end of Beaverhill Lake in 1987.

Section 4 Project Reports

4.1 Grassland Sparrow Survey - Roger Jones

A survey of grassland sparrows was undertaken on the southeast shore of Beaverhill Lake, beginning May 17, 1987 and ending July 18, 1987. A total of 9 surveys were undertaken to determine the species composition and distribution of species over a grid area measuring 180 x 630 metres divided into 30 meter squares. Results are as follows:

Total: 3 species surveyed, 29 territorial males (255/100 ha, 103/100 acres)
 Savannah Sparrow 15 (132, 53)
 Le Conte's Sparrow 8 (71, 29)
 Sharp-tailed Sparrow 6 (53, 21)

Visitors: Mallard, Pintail, Marsh Hawk, Killdeer, Willet, Marbled Godwit, Wilson's Phalarope, American Crow, Red-winged Blackbird, Brown-headed Cowbird, Clay-colored Sparrow, Song Sparrow

Remarks: 4 nests were found: Northern Shoveler(1), 8 eggs; Pintail(2), 4 eggs and 2 eggs; and Wilson's Phalarope(1), 4 eggs

Savannah sparrows were spread throughout the plot, but were concentrated down the center of the grid where there was a scattering of willows which provided visible perches for the males (frequency of singing was higher in this area). Le Conte's sparrows were scattered throughout the plot. Sharp-tailed Sparrows were concentrated in the northeast and southeast corners of the plot where the grass was thicker and taller.

It is hoped that in 1988 we will be able to continue the study with the use of color bands and color marking techniques.

Table 5. Sight records from the Beaverhill Bird Observatory vicinity in 1967

Species	Date and No. (n) birds sighted					
	First Sighting	n	Last Sighting	n	Maximum No. Sighting	n
Pied-billed Grebe	May 17	2	Sep 13	1	May 17	2
Horned Grebe	Apr 19	2	Sep 13	2	May 11	5
Red-necked Grebe	Apr 17	2	Jul 25	20	Jul 25	20
Eared Grebe	Apr 17	3	Jul 24	2	Apr 17	3
Western Grebe	May 09	6	Aug 22	6	May 09	8
Am. White Pelican	May 30	11	Aug 13	6	Jun 30	225
Double-cr. Cormorant	May 03	1	Aug 16	3	Jun 24	4
American Bittern	May 03	1	Sep 12	1	May 18	5
Great Egret	Jun 07	1	Jun 11	1	Jun 07	1
Great Blue Heron	Apr 04	1	Sep 12	4	Apr 19	5
Black-cr. Night Heron	May 03	1	Sep 12	5	Jul 06	20
Tundra Swan	Apr 04	12	May 30	1	Apr 17	150
White-fronted Goose	Apr 05	200	Sep 13	20	May 03	10560
Snow Goose	Apr 17	200	May 03	250	May 03	250
Canada Goose	Apr 04	1500	Sep 13	3	Apr 05	2000
Greened-winged Teal	Apr 17	2	Sep 13	2	Apr 26	6
Mallard	Apr 04	200	Sep 13	50	Aug 22	650
Northern Pintail	Apr 04	400	Aug 22	22	Apr 05	500
Blue-winged Teal	May 03	12	Sep 13	2	Jul 11	150
Cinnamon Teal	May 03	2	May 24	2	May 09	6
Northern Shoveler	Apr 17	4	Sep 03	10	Jul 24	210
Gadwall	Apr 26	6	Aug 22	21	Jul 11	85
<u>Eurasian Wigeon</u>	Apr 05	1				
American Wigeon	Apr 04	40	Sep 12	4	Jun 28	248
Canvasback	Apr 05	6	Sep 13	5	Jul 11	44
Redhead	Apr 05	1	Aug 22	17	Jun 28	85
Ring-necked Duck	Apr 28	1				
Lesser Scaup	Apr 04	10	Sep 13	20	Apr 17	530
White-wing Scoter	May 09	2	Jun 11	15	Jun 11	15
Common Goldeneye	Apr 04	12	Sep 12	4	Apr 17	125
Bufflehead	Apr 05	1	Aug 22	18	Apr 19	20
Common Merganser	Apr 17	6	May 30	1	Apr 17	6
Red-br. Merganser	Apr 05	3	May 10	3	Apr 17	31
Ruddy Duck	Apr 17	3	Aug 22	5	May 11	60
Bald Eagle	Apr 05	2	Apr 26	1	Apr 05	2
Northern Harrier	Apr 04	2	Sep 12	2	Aug 15	8
Sharp-shinned Hawk	May 03	1	Aug 22	1	Jul 20	6
Cooper's Hawk	Apr 05	1	Aug 22	1	Jun 06	2
Northern Goshawk	May 17	1				
Swainson's Hawk	Jul 24	1	Jul 25	1	Jul 24	1
Red-tailed Hawk	Apr 05	4	Aug 22	9	Aug 22	9
<u>Golden Eagle</u>	Apr 05	3				
American Kestrel	Jul 21	2	Aug 09	1	Jul 21	2
Merlin	Apr 17	1	Aug 15	2	Aug 15	2
Parasitic Falcon	Jun 02	1	Jul 31	4	Jul 31	4

<u>Prairie Falcon</u>	Jun 14	1				
Ruffed Grouse	Apr 17	1	Jul 24	8	Jul 18	9
Sharp-tailed Grouse	Jul 07	2				
Yellow Rail	Jun 18	1	Jun 21	2	Jun 21	2
Sora	May 03	1	Aug 22	2	May 24	7
American Coot	Apr 17	30	Sep 13	100	Aug 22	350
Sandhill Crane	May 03	9	Sep 13	15	Sep 13	15
Black-bellied Plover	May 24	20	Aug 15	10	May 24	20
L. Golden Plover	May 24	2				
Semipalmated Plover	Aug 15	3				
Piping Plover	May 17	1				
Killdeer	Apr 04	2	Aug 22	1	Jun 29	10
American Avocet	May 03	6	Jul 07	2	Jun 09	13
Greater Yellowlegs	Apr 19	1	Sep 13	2	Jul 06	30
Lesser Yellowlegs	May 03	3	Sep 12	40	Sep 12	40
Willet	May 01	4	Aug 22	5	May 18	10
Spotted Sandpiper	May 24	2	Aug 11	1	Jul 05	3
Hudsonian Godwit	Jul 23	6	Jul 25	4	Jul 23	6
Marbled Godwit	Apr 20	2	Aug 22	3	Jul 08	12
Ruddy Turnstone	May 24	1				
Red Knot	May 30	2	Jun 06	1	May 30	2
Sanderling	May 24	12	Aug 22	5	May 24	12
Semipalmated Sandpiper	May 10	5	May 30	1	May 11	15
Least Sandpiper	May 10	5	Aug 22	16	May 17	60
Baird's Sandpiper	Jul 24	4	Jul 25	4	Jul 24	4
Pectoral Sandpiper	May 09	12	Aug 22	7	May 18	50
Stilt Sandpiper	May 17	10	May 24	11	May 24	11
Short-billed Dowitcher	Jul 21	6	Aug 13	2	Jul 23	30
Long-billed Dowitcher	May 10	24	May 11	46	May 11	46
Common Snipe	Apr 17	3	Aug 15	1	May 11	6
Wilson's Phalarope	May 01	3	Jul 31	12	May 17	100
Red-necked Phalarope	May 17	5000	Jul 26	40	May 17	5000
<u>Parasitic Jaeger</u>	Aug 22	1				
Franklin's Gull	Apr 17	1	Sep 12	49	Sep 12	49
Bonaparte's Gull	May 17	35	Sep 13	350	Sep 13	750
Ring-billed Gull	Apr 04	40	Sep 12	4	Apr 17	325
California Gull	Apr 04	12	Aug 22	2	Apr 04	12
Herring Gull	Apr 18	5	Aug 15	1	Jul 06	13
Common Tern	May 09	1	Jun 21	1	Jun 11	8
Forster's Tern	May 03	1	Aug 22	3	Aug 13	50
Black Tern	May 09	6	Sep 13	1	Jul 16	190
Rock Dove	May 10	1				
Mourning Dove	May 11	1	Jul 03	1	May 11	1
Black-billed Cuckoo	Jun 14	6	Jul 31	1	Jun 20	20
Great Horned Owl	Apr 04	2	Sep 12	1	Apr 04	2
Short-eared Owl	Apr 17	2	Aug 16	5	Aug 16	5
Northern Saw-whet Owl	Apr 04	1	Jun 18	1	Apr 04	1
Common Nighthawk	Jun 07	1				
Yellow-bellied Sapsucker	Jul 23	1	Aug 22	1	Jul 23	1
Downy Woodpecker	Jun 26	1	Aug 17	1	Jul 24	2
Northern Flicker	Apr 20	1	May 30	1	May 03	2

Species	Date and No. (n) birds sighted					
	First Sighting	n	Last Sighting	n	Maximum No. Sighting	n
W. Wood-Pewee	May 24	1	Aug 22	2	Aug 22	2
Traill's Flycatcher	May 30	1	Aug 22	6	Jul 25	30
Least Flycatcher	May 11	1	Aug 22	45	Aug 22	45
Great-crested Flycatcher	Jul 12	1				
Eastern Kingbird	May 30	1	Aug 22	2	Jul 24	3
Horned Lark	Apr 04	1000	Apr 05	500	Apr 04	1000
Purple Martin	Jul 23	6				
Tree Swallow	Apr 17	1	Aug 11	5	Jul 24	2400
Cliff Swallow	May 10	1	Jul 23	1	Jun 29	30
Bank Swallow	May 16	1				
Barn Swallow	May 10	2	Sep 13	8	Sep 13	8
N. Rough-w. Swallow	Jul 16	1	Jul 23	1	Jul 23	1
Blue Jay	May 03	1	Jun 26	1	May 03	1
Black-billed Magpie	Apr 04	2	Aug 22	2	Aug 09	20
American Crow	Apr 04	6	Aug 22	4	Aug 14	25
Black-cpd Chickadee	Apr 04	6	Sep 13	1	Aug 13	50
Red-breasted Nuthatch	May 09	1	Jul 11	3	Jul 11	3
House Wren	May 17	9	Aug 22	6	Jun 25	50
Sedge Wren	Jul 24	1				
Marsh Wren	May 01	1	Jul 25	20	Jul 25	20
Mountain Bluebird	Apr 18	1				
Swainson's Thrush	May 24	2				
Hermit Thrush	May 11	1	Jul 25	1	Jul 07	2
American Robin	Apr 04	1	Aug 22	4	Jul 11	5
Gray Catbird	Jun 05	1	Jun 11	1	Jun 05	1
Brown Thrasher	May 17	1	Jun 01	1	May 17	1
Water Pipit	May 03	1				
Sprague's Pipit	May 17	1				
Bohemian Waxwing	Apr 04	25	Apr 05	2	Apr 04	25
Cedar Waxwing	Jun 05	12	Jul 31	10	Jul 25	24
Northern Shrike	Apr 04	1	Aug 22	3	Aug 16	5
Loggerhead Shrike	Aug 16	5	Aug 22	3	Aug 16	5
European Starling	Apr 04	325	Jul 23	2	Apr 04	325
Solitary Vireo	Aug 23	2				
Warbling Vireo	May 17	1	Aug 22	12	Jul 25	12
Philadelphia Vireo	May 23	1				
Red-eyed Vireo	Jun 01	3	Aug 14	1	Jun 21	5
Tennessee Warbler	Jul 02	4	Sep 12	2	Jul 18	10
Orange-crowned Warbler	Aug 22	1				
Yellow Warbler	May 17	9	Aug 22	40	Jul 24	40
Magnolia Warbler	Aug 16	1	Aug 23	1	Aug 16	1
Myrtle Warbler	May 09	1	Sep 13	6	Aug 22	6
Palm Warbler	May 10	1				
Blackpoll Warbler	May 17	1				
American Redstart	Jun 07	1	Aug 22	2	Aug 22	2
Mourning Warbler	Jun 07	1				
Common Yellowthroat	Jun 07	1	Jul 31	2	Jul 25	4
Wilson's Warbler	Aug 09	5	Aug 22	4	Aug 09	5
Western Tanager	May 09	1				
American Tree Sparrow	Apr 04	2	Sep 12	1	Apr 19	20
Chipping Sparrow	May 09	1	Aug 09	1	May 10	5

Clay-colored Sparrow	May 09	3	Aug 22	30	Jul 25	30
Vesper Sparrow	May 09	1	Aug 22	2	Jul 02	6
Savannah Sparrow	Apr 20	3	Aug 22	35	Jul 25	60
LeConte's Sparrow	May 03	1	Aug 22	2	May 30	10
Sharp-tailed Sparrow	May 30	1	Jul 25	6	Jul 25	6
Song Sparrow	May 30	2	Jul 31	1	May 30	2
Lincoln's Sparrow	Jun 11	2	Aug 22	2	Jun 11	2
White-thr. Sparrow	Jun 01	1	Sep 12	2	Apr 20	3
Dark-eyed Junco	Apr 18	2	Apr 20	3	Apr 20	3
Lapland Longspur	Apr 04	100				
Snow Bunting	Apr 17	400	May 03	5	Apr 20	1360
Bobolink	Jun 11	3	Jul 03	2	Jun 11	3
Red-winged Blackbird	Apr 17	300	Sep 13	15	Jul 17	150
Western Meadowlark	Apr 17	1	Jun 11	1	May 01	2
Yellow-headed Blackbird	May 03	3	Jul 24	2	Jul 16	55
Brown-headed Cowbird	May 09	10	Aug 09	1	Jul 17	50
Northern Oriole	May 17	6	Aug 14	4	May 30	10
Purple Finch	Apr 17	1	Jul 07	2	Apr 19	10
Pine Siskin	May 17	4	Sep 13	1	May 17	4
American Goldfinch	May 17	4	Aug 22	55	Jul 25	60
Evening Grosbeak	Apr 18	1	Jul 08	1	Apr 20	3
House Sparrow	Apr 04	2	Jul 21	2	Jun 01	4

TABLE 6. Shorebird survey by the Beaverhill Bird Observatory in 1987

Species	Sighting Date in May				
	16	17	18	23	30
Black-bellied Plover				2	
L. Golden Plover	1				
Killdeer	3				2
Am. Avocet			4	2	1
Lesser Yellowlegs	2				
Willet	3	2	1		1
Spotted Sandpiper	1				2
Marbled Godwit	1	2	2		
Ruddy Turnstone	6			2	
Sanderling					flock
Semipal. Sandpiper	3			2	
Least Sandpiper		6	18	4	
Pectoral Sandpiper	14	1	72		
Common Snipe		2			
Wilson's Phalarope	40	15	22	6	2
Red-neck. Phalarope		75	85		
Sandpiper species			40		
Peeps			13		
Total	74	105	257	16	12

Table 7. Nest records from Beaverhill Bird Observatory vicinity in 1987

SPECIES	VISITS WITH EGGS	VISITS WITH YOUNG	ABANDONED OR DESTROYED	PLEGDED
Mallard	05/26 (8)		05/28	
Mallard	05/31 (8)			
Mallard	05/30 (10)		06/04	
Mallard	05/21 (9)		05/23	
Mallard	05/17,31 (8,11)			
Northern Pintail	05/17 (7)			
Blue-winged Teal	05/17 (3)			
Blue-winged Teal	05/17 (6)			
Blue-winged Teal	05/31 (12)			
Blue-winged Teal	05/18 (9)		05/21	
Blue-winged Teal	06/01 (7)			
Northern Shoveller	05/10 (8)			
Northern Harrier	05/11 (0)		05/11	
Sharp-shinned Hawk		07/06-19 (3)		07/25 (3)
Wilson Phalarope	05/26,28 (2,4)		05/30	
Wilson Phalarope	05/24 (3)			
Black-billed Cuckoo	07/14,31 (2)	07/12 (2)	07/19	
Black-billed Cuckoo	07/31 (2)		08/01	
Sawwhet Owl		06/14 (1)		
Least Flycatcher	06/14 (4)	06/28 (4)		
Least Flycatcher	07/07 (3)	07/07 (1)		
Least Flycatcher	06/14 (4)	07/03 (4)		
Barn Swallow		07/05 (4)		
Bl.-capped Chickadee	05/17 (9)	05/26 (9)	05/31	
Bl.-capped Chickadee	05/18 (9)	05/29 (8)	05/31	
Bl.-capped Chickadee	05/30 (9)	06/13 (8)		06/22 (8)
Bl.-capped Chickadee	05/30 (7)	06/8-23 (6)		06/23 (6)
American Robin	05/31 (4)	06/10 (3)		
American Robin	06/14 (3)	06/16 (3)		
Yellow Warbler	06/14 (4)	06/20 (4)		
Yellow Warbler	06/14 (1)	06/14 (2) 06/20 (3)		
Clay-colored Sparrow	05/31 (2)	06/14 (1)		06/19 (1)
Clay-colored Sparrow	05/28 (2)			
Clay-colored Sparrow	05/31 (4)			
Clay-colored Sparrow	06/28 (5 cowbird)			
Savannah Sparrow	05/17 (1)			
Red-winged Blackbird	05/31 (1) 06/02 (3)			
Red-winged Blackbird	05/31 (4)			
Red-winged Blackbird	05/31 (5)			
Red-winged Blackbird	05/31 (4)			
Total number of nests found - 40				
Total number of species - 17				

4.2 Habitat Selection and Polygamy in the House Wren - Michael Quinn

This project was initiated by Geoff Holroyd and Mike Quinn in 1985. The project design in its present form consists of 4 grids containing 23, 24, 71, and 91 (210) nest boxes respectively. Two of the grids are in dense willow scrub and two are in more open balsam poplar forest. These boxes are monitored for settlement patterns and subsequent occupation characteristics. An attempt has been made to band and color-band all breeding and hatchling birds.

In 1987 there were 89 nesting attempts by House Wrens. Only 42 (47%) of these nests fledged young. Thirty of the nest failures were due to predation by least weasels (34%). Thirtyfour percent may be a slightly low estimate since the other 17 nest failures were not all explainable and some more may have been due to weasels. There were 16 nesting attempts by Tree Swallows, only 5 of which were successful. Failures were mainly due to House Wren and weasel predation. Both nesting attempts by Black-capped Chickadees were ended by weasels. The shorttailed and least weasels may prove to be a serious management problem for nest box programs at the BBO, especially those in forested areas.

At this time it is unknown whether field work will continue on House Wrens in 1988.

4.3 Monogamy and Clutch size in Tree Swallows - Peter Dunn

The abundance of food is thought to influence mating behavior and clutch size of birds, yet there have been few studies that have actually tested these hypotheses. Food abundance has been correlated with clutch size of some species on a local basis, but we do not know why clutch size generally increases with increasing latitude. Similarly, most (90%) birds are monogamous, and it has been suggested that this occurs because most males do not have territories with enough food (or other resources needed by females) to support more than one mate. In 1986 I began a study to test some of these ideas about food using the large tree swallow colony at the BBO (535 birds banded in 1987 alone) started by Geoff Holroyd.

To study mating behavior, extra nest boxes were added to territories of some males to see if this improvement would result in polygyny in the higher quality (in terms of nest site, food, etc.) sites. Insects were sampled daily in different colony sites (lakeside, marsh and road). In relating food abundance to frequency of polygyny among the different sites, I discovered the relationship to be positive only during the egg-laying period. Therefore, food may not be as important as I thought previously.

Similarly, there was no consistent relationship between food abundance and clutch size over two years. These results will be compared with results of a continent-wide study of food abundance and clutch size that is coordinated by David Hussell at Long Point. Collection of data will continue in 1988, my last field season at the BBO. A simpler method of insect sampling will be tested so that BBO members can continue the study in future years.

4.4 Duck and Raptor nest boxes - Karl Grantmyre

In 1985, 44 duck and small raptor nest boxes were constructed by members and friends of the BBO (1985 Annual Report). Numbers and types of boxes erected in 1985 are as follows: 11 Kestrel, 5 Owl, 13 Bufflehead, 15 Goldeneye. In years following, boxes have been serviced in April and checked for nesting in May or June. This was the first year that target species were found using the boxes. The following species have been found nesting:

Species	Number of nests		
	1985	1986	1987
Tree Swallow	17	4	2
House Wren	2		1
Starling	5	17	
Goldeneye			1
N. Saw-whet Owl			1
Wasp	1	2	
Honey bee		1	
Unidentified		1	

Appendix

Age and Sex Codes

The following abbreviations have been used throughout the report:

Age	Sex
HY hatch year	M male
AHY after hatch year	F female
SY second year	
ASY after second year	
U unknown	

Owls banded near Sherwood Park in 1987 by Ray Cromie (BBO sub permittee)

A) Northern Saw-whet Owl

31 banded from 6 nest sites
 29 young (L/U) and 2 female adults captured on nest
 22 nest boxes erected (not used)
 3 young died of hypothermia due to May 19 snowstorm

B) Long-eared Owl

9 young (L/U) banded from 2 nest sites
 4 nest sites located:
 1) 5 young, 4 banded
 2) 5 young, 5 banded
 3) 2 young, 2 fledged
 4) 1+ young fledged
 10 wire nest sites erected in "preferred" Long-eared Owl nesting areas; one of these sites was used by a Cooper's Hawk which fledged 4 young.

Raptor banding in Sherwood Park area and north, winter 1986/87 - Karl Grantmyre (BBO subpermittee)

Northern Goshawk

HY/M Oct. 28, 1986
 HY/M Nov. 3, 1986
 Mature female Nov. 12, 1986
 Immature female Nov. 29, 1986
 HY/F Jan. 8, 1987
 Immature female Jan. 19, 1987
 Immature female Jan 21, 1987

Great Horned Owl

1 on Dec. 26, 1986

Snowy Owl

2 on Feb. 15, 1987
1 on Mar. 8, 1987

A remarkable occurrence was the recapture on Feb. 23, 1987 of a Great Horned Owl that had been banded and released at the Ministik Bird Sanctuary, 12 miles from the capture site. It was recaptured less than 100 ft. from the original trapping location and was later released near Viking, Alberta.

Rehabilitated Hawks banded and released in 1987 by Karl Grantmyre

- 1) 1387-12802 SY/F Rough-legged Hawk received from Leduc Fish and Wildlife, April 25, 1987. Right wing humorous was broken, but ulna was intact, and she had an appreciable infestation of lice. Both conditions were treated and recovery was excellent. Released May 27, 1987, the hawk did not return to the hackstand.
- 2) 987-46706 AHY Red-tailed Hawk with broken wing was received from Leduc Fish and Wildlife May 19, 1987. Veterinary care was provided and its recovery was excellent. It was released at hack, September 10, 1987.
- 3) 987-46707 HY Red-tailed Hawk with wing broken at the shoulder was received from Leduc Fish and Wildlife June 18, 1987. Veterinary care was provided and recovery was good. It was released at hack August 9, 1987.
- 4) 1387-12809 AHY Red-tailed Hawk, wing broken at radius and ulna, was received from a private individual April 25, 1987. Bird was released August 8, 1987 near site where it had been found.
- 5) 1387-12803 HY Red-tailed Hawk received with wing broken at the shoulder. Veterinary care followed by a good recovery allowed for bird's release at hack June 5, 1987.
- 6) 816-80606 HY/M Swainson's Hawk with wing broken at shoulder was received from a private individual August 9, 1987. Veterinary care followed by a good recovery allowed for its release at hack September 9, 1987.

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Participants and acknowledgements:**BBO executive, 1987:**

Rainer Ebel, chairman
 Karl Grantmyre, vice-chairman
 Beryl Park, treasurer
 Roger Jones, secretary
 Jim Faragini, maintenance director
 Geoff Holroyd, projects coordinator
 Elaine Letourneau, newsletter editor
 Nancy Ritchie, fund-raising director

BBO members, 1987: Debra Belmonte, Peter Dunn, Stefan Jungkind, Jim Lange, Roger Laycock, Mike Quinn, Shirley Talavia, Zerxis Talavia, Eric Wallace.

Assistants: Elisabeth Beaubien, Matthew Ebel, Raina Ebel, John and Donna McShane, Jim Robinson, Iles Wade
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