

Teslin Lake Bird Banding Station Final Report (2007)



Prepared for:
Yukon Fish & Wildlife Enhancement Trust Fund

Prepared by:
Ben Schonewille
Teslin Lake Bird Banding Station



August 2007

TABLE OF CONTENTS

1.0 INTRODUCTION3

2.0 METHODS3

3.0 RESULTS4

 3.1 GENERAL RESULTS4

 3.1 BAND RETURNS8

 3.2 ADDITIONAL STUDIES8

 3.3 VISITORS AND VOLUNTEERS8

 3.2 PROJECT ACTIVITIES9

 3.3 COMMUNICATIONS.....9

4.0 DISCUSSION AND CONCLUSION10

Cover Photos (clockwise from upper left)
Sharp-shinned Hawk, Common Yellowthroat (male),
Golden-crowned Sparrow, “Gambels” White-crowned Sparrow

1.0 Introduction

The Teslin Lake Bird Banding Station has been in operation since 2005 with financial support coming from numerous agencies including the Teslin Renewable Resources Council, Environment Canada (CWS), Yukon Environment and the Yukon Bird Club. For the 2007 spring season, a sizable financial contribution was made by the Yukon Fish and Wildlife Enhancement Trust. The objectives of the banding station are as follows:

- Collect baseline data pertaining to bird migration in the Teslin region.
- Provide a unique educational opportunity for community members and tourists of all ages.
- Gain a better understanding of the avifauna of the Yukon in general.

The banding station serves as a method of carrying out research on birds which is shared through an international database. This is due to the possibility of a banded bird being recaptured across international borders. Many of the birds banded at Teslin Lake are highly migratory spending the winter months as far south as Central and South America. The station also plays a role in education as a place where the public, volunteers and students can take part in a unique, community based research project.

2.0 Methods

During 2007, the banding station was operated only during the spring season for 25 days over the period of April 22nd to June 3rd. The station was not operated on a daily basis due to both financial and staff constraints. A total of 22 mist nets were used for capturing birds as this number has been set as the standard number to be used in future years of operation.

Mist nets were checked for birds every 15 - 30 minutes (depending on bird activity) and birds caught were placed in holding bags and returned to the banding lab. Birds were banded and the following data was collected if possible:

- Species
- band number
- age and criteria used
- sex and criteria used
- un-flattened wing chord
- weight
- fat score (5 point scale)
- status
- date
- time
- location banded
- bander's initials
- trap used
- net captured in
- molt information
- additional comments

- cap presence and length
- tail length, primary projection, bill size, tarsus (flycatchers only)

All age and sex determinations were made according to the Identification guide to North American Birds (Pyle 1997). For measuring the wing length a wing ruler was used with 0.5 mm denominations. Some anatomical measures such as tarsus, and cap length were measured using DiaMax calipers.

Birds were processed as quickly as possible and were released if showing signs of stress. Mist nets were closed upon the onset of inclement weather or when too many birds were captured to allow timely processing. The overall number of net hours per day was variable due to inconsistent weather conditions and the amount of manpower available to assist in banding. All birds captured that were previously banded were also processed and had limited information gathered to facilitate a faster release.

The weather conditions were recorded twice a day during every day of operation, once at the beginning of the day and once at the end of the day. Information collected at these times included temperature, wind direction and strength, cloud coverage, visibility and precipitation. For every day of the observatory's operation, an estimated daily total was calculated for every species encountered during each day. This calculation done using the following formula; Estimated Total (ET) = # banded + # recaptured + # observed/heard.

3.0 Results

3.1 General Results

During the spring season, the station was operated¹ for 25 days from April 22nd to June 2nd. Over this time period, 1,267 birds of 43 species were banded (Table 2, Figure 1) and 91 species were observed (Table 3). The effort (net hours) and capture per unit effort (birds per net hour) for the 2006 season can be found below in Table 1. For a detailed description of each species banded, refer to Appendix 1 and 2.

Table 1. Net hours and capture per unit effort during the spring and fall of 2006.

Season	Birds Captured	Effort (net hours)	Capture / 100 net hours
Spring	1,267	1,977	64.10

¹ Days of operation are defined as days where mist netting was conducted. In addition to these days, observations were taken on days where the weather did not allow mist netting.

Table 2. Birds banded during the spring of 2007.

Common Name	Latin Name	Number Banded
Sharp-shinned Hawk	<i>Accipiter striatus</i>	2
Spotted Sandpiper	<i>Actitis macularia</i>	1
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	2
Northern Flicker	<i>Colaptes auratus</i>	1
Alder Flycatcher	<i>Empidonax alnorum</i>	10
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	1
Hammond's Flycatcher	<i>Empidonax hammondi</i>	11
Least Flycatcher	<i>Empidonax minimus</i>	3
Dusky Flycatcher	<i>Empidonax oberholseri</i>	2
Western Wood Pewee	<i>Contopus sordidulus</i>	2
Say's Phoebe	<i>Sayornis saya</i>	2
Gray Jay	<i>Perisoreus canadensis</i>	1
Black-capped Chickadee	<i>Poecile atricapillus</i>	2
Boreal Chickadee	<i>Poecile hudsonicus</i>	2
Ruby-crowned Kinglet	<i>Regulus calendula</i>	27
Gray-cheeked Thrush	<i>Catharus minimus</i>	5
Swainson's Thrush	<i>Catharus ustulatus</i>	48
American Robin	<i>Turdus migratorius</i>	17
Varied Thrush	<i>Ixoreus naevius</i>	2
Tennessee Warbler	<i>Vermivora peregrina</i>	6
Orange-crowned Warbler	<i>Vermivora celata</i>	47
Yellow Warbler	<i>Dendroica petechia</i>	37
Yellow-rumped "Myrtle" Warbler	<i>Dendroica coronata</i>	29
Blackpoll Warbler	<i>Dendroica striata</i>	10
Northern Waterthrush	<i>Seiurus noveboracensis</i>	11
American Redstart	<i>Stenophaga ruticilla</i>	1
Common Yellowthroat	<i>Gethylpis trichas</i>	11
Wilson's Warbler	<i>Wilsonia pusilla</i>	63
American Tree Sparrow	<i>Spizella arborea</i>	72
Chipping Sparrow	<i>Spizella passerina</i>	6
Savannah Sparrow	<i>Passerculus sandwichensis</i>	24
Fox Sparrow	<i>Passerella iliaca</i>	17
Lincoln's Sparrow	<i>Melospiza lincolni</i>	39
"Gambel's" White-crowned Sparrow	<i>Zonotrichia leucophrys gambelli</i>	579
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	16
White-throated Sparrow	<i>Zonotrichia albicollis</i>	1
Dark-eyed "Slate-colored" Junco	<i>Junco hyemalis</i>	135
Unidentified Dark-eyed Junco	<i>Junco hyemalis</i>	9
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	1
Rusty Blackbird	<i>Euphagus carolinensis</i>	2
Purple Finch	<i>Carpodacus purpureus</i>	6
Common Redpoll	<i>Carduelis flammea</i>	1
Hoary Redpoll	<i>Carduelis hornemanni</i>	3
TOTAL INDIVIDUALS		1267
TOTAL SPECIES		43

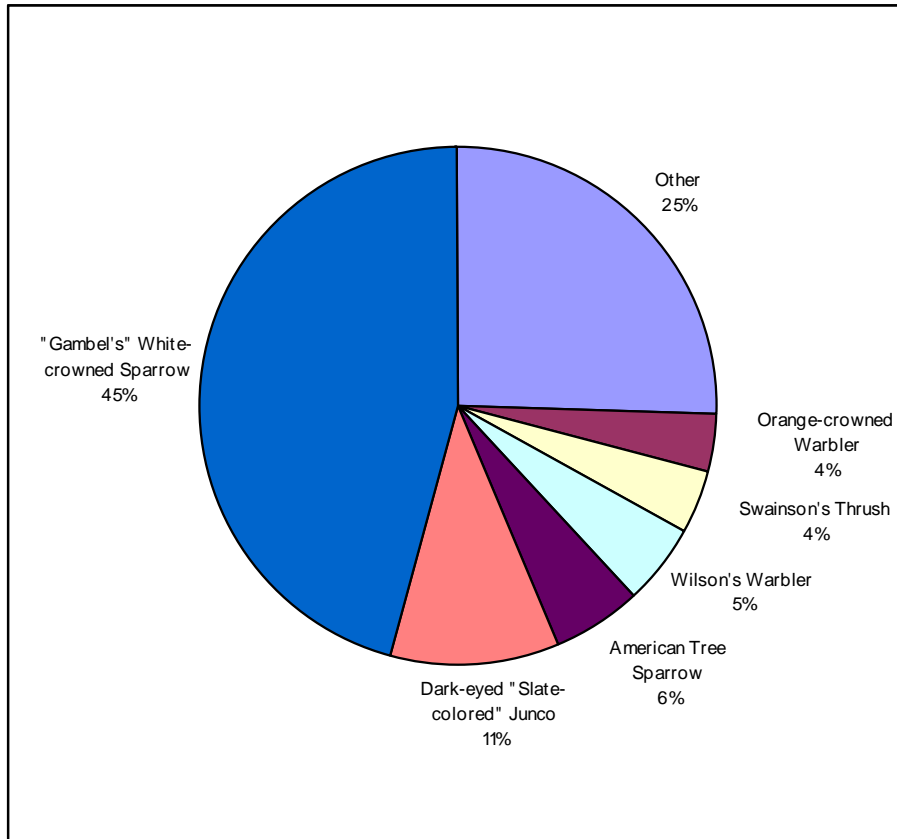


Figure 1. Composition of species banded during the spring season of 2007.

Table 3. Observations of birds during the spring season of 2007.

Species	# Days Recorded	Bird Days	Species	# Days Recorded	Bird Days	Species	# Days Recorded	Bird Days
Common Loon	4	4	Belted Kingfisher	10	16	Bohemian Waxwing	11	42
Snow Goose	2	21	Yellow-bellied Sapsucker	10	36	Tennessee Warbler	4	12
Canada Goose	6	19	Hairy Woodpecker	5	5	Orange-crowned Warbler	17	97
Trumpeter Swan	2	3	Northern Flicker	18	57	Yellow Warbler	8	100
Tundra Swan	4	73	Alder Flycatcher	3	12	Myrtle Warbler	21	129
Mallard	2	5	Yellow-bellied Flycatcher	1	1	Blackpoll Warbler	6	16
Northern Pintail	2	18	Hammond's Flycatcher	14	48	Northern Waterthrush	9	37
Common Goldeneye	6	14	Least Flycatcher	3	4	American Redstart	1	1
Bufflehead	1	1	Dusky Flycatcher	2	2	Common Yellowthroat	4	30
Unidentified Goldeneye	2	13	Olive-sided Flycatcher	1	1	Wilson's Warbler	12	133
Common Merganser	8	38	Western Wood-pewee	6	9	American Tree Sparrow	17	301
Red-breasted Merganser	4	14	Say's Phoebe	4	6	Chipping Sparrow	4	10
Sharp-shinned Hawk	6	7	Warbling Vireo	3	3	Savannah Sparrow	21	62
Osprey	1	1	Black-billed Magpie	1	1	Fox Sparrow	12	90
Bald Eagle	3	3	Gray Jay	7	10	Lincoln's Sparrow	22	79
Northern Harrier	9	12	Common Raven	23	42	White-crowned Sparrow	24	2289
Peregrine Falcon	1	1	Horned Lark	5	13	Golden-crowned Sparrow	11	89
Merlin	1	1	Tree Swallow	11	55	White-throated Sparrow	2	3
Ruffed Grouse	23	43	Violet Green Swallow	3	5	Slate-colored Junco	23	1015
Semipalmated Plover	1	3	Barn Swallow	5	7	Lapland Longspur	9	22
Killdeer	4	5	Cliff Swallow	1	1	Unidentified Dark-eyed Junco	4	8
Greater Yellowlegs	1	2	Black-capped Chickadee	18	27	Red-winged Blackbird	2	2
Lesser Yellowlegs	7	11	Boreal Chickadee	11	21	Rusty Blackbird	17	116
Solitary Sandpiper	4	4	Red-breasted Nuthatch	4	4	Brown-headed Cowbird	1	1
Spotted Sandpiper	2	8	Ruby-crowned Kinglet	22	88	Purple Finch	21	43
Least Sandpiper	1	2	Mountain Bluebird	3	7	Common Redpoll	14	126
Pectoral Sandpiper	2	2	Gray-cheeked Thrush	2	5	Hoary Redpoll	1	3
Common Snipe	3	3	Swainson's Thrush	10	104	TOTAL	25	6481
Bonaparte's Gull	2	3	Hermit Thrush	2	2			
Herring Gull	24	237	American Robin	24	299			
Arctic Tern	3	9	Varied Thrush	20	36			
Rufous Hummingbird	1	1	American Pipit	15	117			

3.1 Band Returns

To date, the station is yet to have any foreign¹ band recoveries. However; during this spring's operation, 15 individual birds of 6 species were recaptured. This phenomenon of banded birds returning to the original banding site in following years is common at many banding stations including Albert Creek which often has large numbers of returning local breeders.

Band Number	Species	Sex	Date Banded	Date Recaptured	Age at Recapture
85255868	American Robin	M	7-May-06	6-May	ASY
85255870	American Robin	M	12-May-06	12-May-07	ASY
240070951	Black-capped Chickadee	U	16-Apr-06	22-Apr-07	ASY
181160172	"Gambel's" White-crowned Sparrow	U	21-May-06	20-May-07	ASY
243038157	Northern Waterthrush	U	14-Jul-06	26-May-07	ASY
240070667	Northern Waterthrush	U	2-Jun-06	27-May-07	ASY
191141262	Slate-colored Junco	M	24-Apr-06	27-May-07	ASY
191141261	Slate-colored Junco	M	24-Apr-06	27-May-07	ASY
240070546	Yellow Warbler	F	11-Jul-05	26-May-07	ATY
240023994	Yellow Warbler	M	27-May-06	26-May-07	ASY
240070640	Yellow Warbler	M	2-Jun-06	27-May-07	ATY
240023995	Yellow Warbler	M	27-May-06	29-May-07	ASY
240070639	Yellow Warbler	F	2-Jun-06	29-May-07	ASY
240070626	Yellow Warbler	F	28-May-06	2-Jun-07	ASY
240023943	Yellow Warbler	M	20-May-06	2-Jun-07	ASY

3.2 Additional Studies

In addition to regular banding activities, a number of additional studies were also conducted. Teslin participated (Pam Sinclair, CWS) in a project in where Rusty Blackbirds were color banded in order to learn more about the sensitive boreal species. Feathers were also collected from this species for stable isotope to help aid in learning more about breeding and wintering areas utilized by Yukon Rusty Blackbirds. The station also collected feather samples for the Canadian Migration Monitoring Network (CMMN) which will be analyzed for stable isotopes to aid in determining migration routes used by migratory songbirds across North America.

3.3 Visitors and Volunteers

Table 4 shows the number of hours spent at the banding station by visitors, volunteers and paid workers. Visitors were defined as people who visited the station (often for a short time) and did not take part in bird banding activities. Volunteers were people who took part in the operation of the station (often extensively) without being financially compensated. Paid hours were spent by individuals being paid to be at the station. This

¹ This term is given to a bird which was banded at a site other than Teslin Lake.

category includes the Bander In Charge (Ben Schonewille) and a paid assistant (Jukka Juntunen, Ted Murphy-Kelly).

Table 4. Hours spent at the banding station visitors, volunteers and paid workers¹.

Visitor Hours	Volunteer Hours	Paid Hours
113	75	187

3.4 Project Activities

The project involved the collection of data pertaining to bird migration through the Teslin region. This was done using the capture of birds (and banding) in addition to the observation of all birds during each day of operation. The ultimate goal of the project activities were to calculate an “estimated daily total” for each species during each day.

In addition to collecting the above data, the station was an excellent location for all members of the public to visit the station and learn about birds and bird migration as well as scientific data collection in general (see section 3.3 for a breakdown of visitor hours tabulated at the station).

The activities undertaken by this project directly achieved the goals identified in section 1.0. The data collected by this project serves as baseline data on bird distribution and migration in the Teslin region and will be valuable for comparisons to future years of operation of the station. Through the collection of such baseline data, it is hoped that future land use practices will be able to be modified or adjusted to accommodate songbirds and/or their habitats as possible. Additionally, gaining a better understanding of bird distribution in the Yukon is crucial in making sound management decisions which may affect particular bird songbird species.

This project followed the objectives as initially planned and did not have any unexpected positive or negative effects on the welfare of fish, wildlife and/or their habitat.

3.5 Communications

The results of this project have (and will be) shared with numerous people and agencies as deemed relevant. Environment Canada (Canadian Wildlife Service) likely has the greatest interest as the management and research of migratory birds is part of this agency’s mandate. Environment Yukon and the local Renewable Resource Council also have a keen interest in the project and also be provided a summary of the project’s findings.

¹ Paid hours include only those hours spent at the banding station and do not include the very extensive amount of time spent doing office duties such as data entry, analysis and reporting.

In addition to government agencies, the results of the project were provided to all interested members (including the membership of the Yukon Bird Club) of the public via weekly emails which served to update individuals on the station's progress throughout the year. An online photo album was also set up at the following address to allow individuals to see photos of numerous species of birds and learn the distinguishing characteristics of each;

<http://picasaweb.google.com/yukonbanding/TeslinLakeBirdBandingStationSpring2007>

Other avenues of distributing the results of the project included weekly updates on 96.1 The Rush along with the Albert Creek station in Watson Lake. Additionally, the two Yukon banding stations will have a featured article in the September 2007 issue of Yukon: North of Ordinary which is the inflight magazine of all Air North flights. During the winter of 2007/2008 a series of public presentations will be given in coordination with the Albert Creek station throughout the Yukon including Whitehorse, Teslin, Watson Lake and possibly Haines Junction.

During all written and verbal interviews, the Yukon Fish and Wildlife Enhancement Trust Fund was and will be noted as a supporter and funder of the project.

4.0 Discussion and Conclusion

The results of this project have provided further evidence that the current study site has the potential to become a full scale migration monitoring station. To date the station has operated only partially without full coverage throughout a migration season. This has been primarily due to limited resources; however, the station has been able to capture a moderate number of birds during operation. Even more impressive than the total number of individuals captured in the diversity of species, with a total of 43 species banded during 2007 and 62 species captured since 2005. These results further emphasize that with funding secured; the station could operate for both the spring and fall migration seasons and successfully monitoring bird migration through the Teslin region. If the station can operate for a full spring and fall migration season for numerous years it will be possible to develop population trends for certain species. The station has a very high potential to monitor the more common Yukon species such as White-crowned Sparrow, Wilson's Warbler, Yellow-rumped Warbler, Yellow Warbler and Swainson's Thrush. The data gathered pertaining to less common species near the margin of their breeding range such as MacGillvary's Warbler and Western Tanager is also highly valuable. In terms of public education and outreach, the more days the station is operating the greater the potential to involve members of the public in this unique form and research and ultimately increase awareness of bird migration and Yukon birds in general.