Breeding Bird Surveys in the Gwich'in Settlement Area: June 2012

Prepared by: Wayne Condon, GIS Manager, Aurora Research Institute, PO Box 45, Fort Smith, NT X0E 0P0
Prepared for: Department of Environment and Natural Resources, Government of the Northwest Territories
Wildlife Research Permit Number: WL005414
Date: October 18, 2012

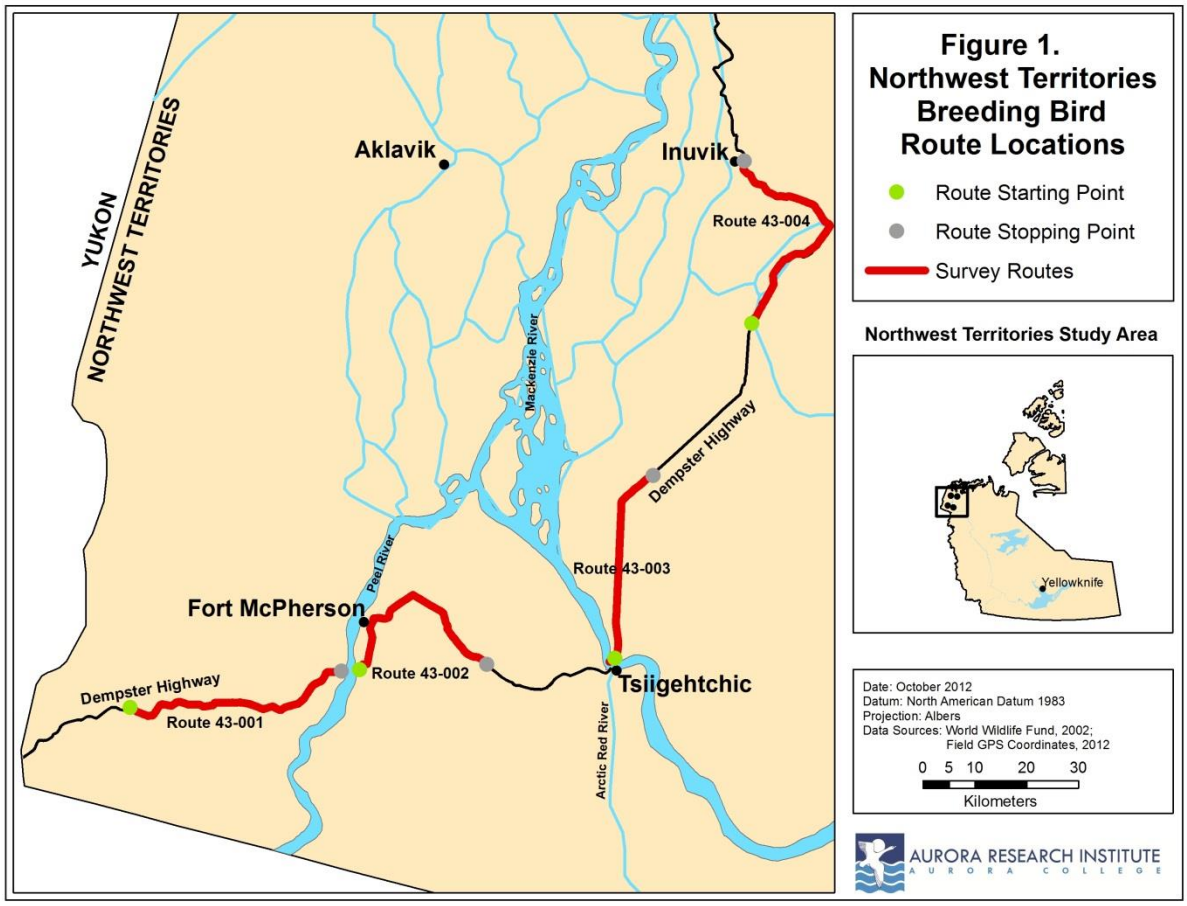
Table of Contents

1. Introduction

Breeding bird surveys (BBS) have been conducted across North America since the 1960s, usually by volunteers. Four BBS routes near the communities of Fort McPherson, Inuvik and Tsiigehtchic were completed in 2012. To be valuable, BBS routes need to be run consistently over time to gage bird population trends. This report gives a summary of the surveys conducted in 2012.

2. Study Locations

On June 9, 11, 12, and 13 2012, ARI staff and 6 local field assistants, conducted four breeding bird survey routes near the communities of Fort McPherson, Inuvik and Tsiigehtchic in the Northwest Territories (Figure 1).



3. Objectives and Rationale

The main objectives of this research were to:

1) Collect information about **Species-At-Risk** in the Gwich'in Settlement Area and provide the data to the Species-At-Risk Stewardship Program and the local Renewable Resource Councils;
2) Collect information about breeding birds in the region on BBS routes 043-001, 002, 003 and 004 that were vacant (i.e. no surveyors were scheduled to complete the routes in 2012);
3) Provide the data collected to the Canadian Wildlife Service for inclusion in the North American-wide breeding bird surveys program to determine long-term population trends; and
4) To provide training for local field assistants so they may survey the routes in future years.

4. Community Involvement

Two field assistants from each of the three communities helped complete the surveys by navigating to the stop locations and timing the 3 minute-long surveys. They were shown how to use a handheld GPS and taught how to identify some birds by song. Each assistant received $200 per survey day for their help. If funding is obtained next year, it is anticipated that the same field assistants will participate again. Bird song recordings were mailed to the assistants after the project to allow them to learn the songs over the next year. By providing training, it is hoped that some (or all) of the assistants will be able to take over the routes in future years.

The Principal of the High School in Fort McPherson was contacted to arrange a presentation to high school students about the project as requested by the local Renewable Resources Council. Unfortunately, no time could be arranged to do the presentation during the brief stop in Fort McPherson.

Financial support for this project was provided by the Species-At-Risk Stewardship Program and the Aurora Research Institute. The local Renewable Resource Councils provided support by completing recommendation forms and the Canadian Wildlife Service also offered a letter of support.

5. Methods

A total of 182 individual surveys were completed on four routes along the Dempster Highway (Figure 1). These surveys were part of North American-wide breeding bird surveys which were started in the 1960s to monitor long-term trends in bird populations. The method employed to conduct the surveys was to record all birds seen and heard within 400 metres of individual point count locations during 3 minute periods along each of the four routes. Survey locations were 800 metres apart and the routes were 40 km long allowing for 50 stops per route. The surveys were conducted from 3:30 to 10:00 in the morning. At each stop, the time, temperature, wind speed and sky conditions were also noted. Exceptions to this protocol included Route 43-001 which was started 15.2 km west of the planned start location shown in Figure 1, Route 043-002 where only 33 stops were surveyed due to bad weather (to conduct breeding bird surveys there must be little wind and only light showers); and Route 043-004 where 49 stops were made before arriving at the Town of Inuvik.

6. Results and Main Conclusions

Fifty different bird species were observed on all four routes. Table 1 provides a summary of the birds species observed on the four routes in the region during the 3 minute point counts. The most common bird species observed on all four routes were, in descending order: Yellow Warbler, White-crowned Sparrow, Common Redpoll, Alder Flycatcher, Savannah Sparrow, Yellow-rumped Warbler, and American Robin. Other birds that were observed included seven **Species-At-Risk**, all listed as **Sensitive** in the Northwest Territories; Lesser Scaup, White-winged Scoter, Lesser Yellowlegs, Short-eared Owl, Blackpoll Warbler, American Tree Sparrow and Rusty Blackbird (ENR, 2011). **Sensitive** wildlife species are those "that are not at risk of extinction or extirpation but may require special attention or protection to prevent them from becoming at risk." (ENR, 2011). A total of 744 individual birds were observed on all four routes.

Table 1. Bird numbers and species observed by breeding bird survey routes.

Species	Number of Birds Observed by Route				Total Individuals Observed
	Route 43-001+	Route 43-002*	Route 43-003^	Route 43-004	
Bohemian Waxwing				1	1
Golden-crowned Kinglet				1	1
Hermit Thrush	1				1
Lesser Scaup				1	1
Lesser Yellowlegs		1			1
Northern Hawk Owl				1	1
Northern Shoveller		1			1
Pacific Loon		1			1
Rusty Blackbird				1	1
Tree Swallow				1	1
Western Wood Pewee			1		1
American Redstart			2		2
Bonaparte's Gull		2			2
Rock Ptarmigan	2				2
Varied Thrush			1	1	2
Western Tanager			2		2
Gray Jay			3		3
White-winged Scoter				4	4
Chipping Sparrow	1			5	6
Ruby-crowned Kinglet	2	1	3		6
Greater Scaup	2	3	2		7
Sandhill Crane	2		1	4	7
White-winged Crossbill	1		4	2	7
Tennessee Warbler			8		8
Herring Gull		5		4	9

Species	Number of Birds Observed by Route				Total Species Observed
	Route 43-001+	Route 43-002*	Route 43-003^	Route 43-004	
Willow Ptarmigan	5		3	1	9
American Tree Sparrow	4		3	4	11
Gray-cheeked Thrush			8	4	12
Wilson's Warbler			4	8	12
Lincoln's Sparrow	5		4	4	13
Wilson's Snipe	11		2		13
Fox Sparrow	5	1	1	9	16
Blackpoll Warbler			12	6	18
Common Raven				20	20
Orange-crowned Warbler	1		7	12	20
Northern Waterthrush	1		11	9	21
(Slate-colored Junco) Dark-eyed Junco	5	8	9		22
Pine Grosbeak			19	4	23
Swainson's Thrush	3	6	12	10	31
American Robin	12	3	4	24	43
(Myrtle Warbler) Yellow-rumped Warbler	11	13	15	5	44
Savannah Sparrow	43	1	2		46
Alder Flycatcher	30	10	4	3	47
Common Redpoll	18	3	22	26	69
White-crowned Sparrow	7	7	29	30	73
Yellow Warbler	23	21	27	28	99
Total Number of Birds Observed	195	87	225	233	740

Notes: Each route consisted of 50 individual surveys spaced 800 metres apart.

+ Route 43-001 was started 15.2 km west of the planned start location due to navigation error.

* Only 33 of 50 surveys were completed on Route 43-002 due to bad weather.

^ A total of 49 surveys were completed on Route 43-004.

Four species of birds were observed outside of the scheduled 3 minute point counts. A Short-eared Owl was observed hunting between stops 2 and 3 on Route 43-001. On Route 43-004, a Tundra Swan was observed between stops 16 and 17, a Northern Harrier was seen flying at stop 28, and a Peregrine Falcon (unconfirmed) was observed flying between the trees at stop 30. Another **Species-At-Risk,** a Grizzly Bear, was observed running away from the highway approximately halfway through Route 43-001.

Monitoring bird populations is an important tool to identify where **Species-At-Risk** are located and for assessing the conservation status of common species.

7. Long Term Plans and Recommendations

Data need to be collected on an annual basis to enable the long-term assessment of bird population trends over time. It is recommended that the surveys be completed on an annual basis. To allow this to happen, trained local surveyors must be available to complete the work. Ideally, surveyors should have knowledge of and experience with bird point counts. A program should be implemented to train community members to conduct these surveys and ENR should consider investing funds to ensure on-going surveys.

8. References

ENR (Working Group on General Status of NWT Species). 2011. ***NWT Species 2011-2015 – General Status Ranks of Wild Species in the Northwest Territories***, Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 172 pp.