

Migration Monitoring at TTPBRS

2011



Brown Creeper (C. England)

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For
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Restoration Services

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Introduction

The Tommy Thompson Park Bird Research Station (TTPBRS) was established in April of 2003 and is run by the Toronto and Region Conservation Authority (TRCA). The primary objectives of TTPBRS are to aid conservation efforts at the local, national and international level through monitoring, research and education. The core focus of the TTPBRS is the Migration Monitoring Program. This report details results of the 2011 spring and fall seasons at TTPBRS.

Study Site

Tommy Thompson Park (TTP) is located on the Leslie Street Spit, a man-made peninsula on Toronto's waterfront which extends 5 km into Lake Ontario. The spit was developed in the 1950's by the Toronto Port Authority for the purpose of expanding port facilities in anticipation of increased shipping activities in the Great Lakes. Since then a combination of lakefilling and dredging activities created the current configuration of the park. TTP now has a land base of approximately 160 hectares and a water surface area of 100 hectares, composed of the western embayments and the inner disposal cells.

Through natural succession and habitat restoration most of TTP has been colonized by a variety of plant and animal communities. The geographic situation of the park and its natural features make it very suitable for large numbers of breeding and migrating birds. Overall, the park represents the largest area of existing natural habitat on the Toronto waterfront. Tommy Thompson Park is classified as an Environmentally Significant Area and was designated as an Important Bird Area (IBA) by Birdlife International in 2000.

The site selected for Migration Monitoring is located on peninsula D, which is one of several peninsulas that branch off the main spine of the spit. The peninsula is bordered by the Toronto harbour on the north side and an inner bay on the south side. The habitat is composed of early succession cottonwood, willow, dogwood, and birch forest. Beach and meadow features are also present in the study area. Please refer to Appendix A for a detailed map of the study area.

Toronto and Region Conservation (TRCA)

Toronto and Region Conservation (TRCA) was formed in 1957 for the management and conservation of natural resources in the Greater Toronto Area (GTA). Since its formation TRCA has prepared and delivered programs for the management of the renewable natural resources within its watersheds.

Migration Monitoring Program

Rationale

Migration Monitoring is an effective method for monitoring populations of migratory birds through the standardized capture and counting of migrants. This protocol is particularly useful for monitoring species which breed and winter in areas too remote and inaccessible to survey.

There are 25 Migration Monitoring stations throughout Canada which are coordinated by the Canadian Migration Monitoring Network (CMMN). The data collected by member stations can be analyzed to detect population trends at the local, regional and national scales.

Methods

Migration Monitoring operates on a daily basis from April 1 - June 9 and August 5-November 12. The protocol employs fixed effort census and point count surveys as well as a fully standardized capture regimen. The protocol for data collection at TTPBRS is detailed in the TTPBRS Migration Monitoring Protocol.

Spring 2011 Migration Summary

Spring migration monitoring commenced on April 1 and ran until June 9th for a total of 69 days of coverage. 168 species were detected within the study area. Diversity peaked on May 19 with 74 species detected, compared to a low of 21 species on April 15.

Table 1. Spring Coverage and Results

Unit	2011	2010	2009	2008	2007	2006	2005	2004
Days with coverage	69	65	68	68	67	64	67	69
Total Species Detected	168	152	164	188	178	179	173	161
Birds Banded	1172	1399	1530	1893	2638	2570	2547	2519
Birds Recaptured	521	210	271	361	369	470	468	604
Captured Unbanded	51	54	34	35	107	54	78	236
Total Captures	1744	1663	1835	2289	3114	3094	3093	3359
Net Hours	2723.3	3227	3321	4790	4595	4687	5492	5317
New birds banded/net hour	0.43	.43	.46	.39	.57	.54	.46	.47

Banding

75 species were banded during spring 2011. A total of 1,144 were banded in 2723.3 for an average capture rate of 0.42 birds per net hour. The highest banding total was on May 17 when 72 birds were banded. The highest capture rate was on May 15th, with a rate of 1.89 birds per net hour. The least productive day was April 23 with a total of 6 birds banded and 0.067 birds per net hour.

Table 2. Spring Banding Totals

Species	Total	Species	Total	Species	Total
AMGO	15	FISP	5	REVI	6
AMRE	24	FOSP	5	RWBL	73
AMRO	14	GCFL	1	SAVS	1
ATSP	3	GCKI	89	SCJU	39
BAOR	7	GCTH	50	SCTA	1
BAWW	11	GRCA	38	SOSP	43
BCCH	2	HAWO	2	SWSP	17
BHCO	13	HETH	71	SWTH	104
BHVI	2	HOWR	4	TEWA	2
BLBW	7	LEFL	11	TRES	3
BLJA	1	LISP	18	TRFL	30
BLPW	7	MAWA	62	VEER	10

BRCR	17	MOWA	12	WAVI	6
BRTH	10	MYWA	148	WCSP	11
BTBW	12	NAWA	28	WIWA	20
BTNW	4	NOCA	1	WIWR	4
CAWA	8	NOPA	4	WOTH	6
CMWA	7	NOWA	7	WPWA	16
COGR	8	NRWS	6	WTSP	82
COYE	17	NSHR	1	YBFL	7
CSWA	20	OSFL	1	YBSA	6
DOWO	3	OVEN	24	YPWA	1
EAKI	2	PHVI	1	YSFL	5
EAPH	7	PUFI	1	YEWA	54
EATO	2	RBGR	6		
EAWP	2	RCKI	31	TOTAL	1399

Recaptures

During spring 2011 there were 210 recaptures, consisting of 148 individuals and 62 multiple encounters (birds recaptured more than once). 95 individuals were repeats (banded at TTPBRS the same season) and 53 were returns (banded at TTPBRS a previous season). All of the returning birds were species that breed at TTPBRS. Please refer to Appendix B for detailed recapture totals for spring 2011. Although our focus is migration monitoring, the yearly recapture of certain individuals indicates site fidelity, which has positive implications for the habitat quality at TTP.

Highlights



Blue-winged Warbler – observed on May 10 & May 29
 Eastern Bluebird – May 27 and May 28
 Forster’s Tern – observed April 19
 Glaucous Gull – April 3 & 4
 Green Heron – May 30
 Hooded Warbler – May 24
 Iceland Gull – April 3, 4, 7, 13
 Orchard Oriole – May 22
 Osprey – April 2
 Pied-billed Grebe – April 6
 Pine Warbler – April 27, 28, 29
 Purple Martin – April 30, May 28
 Red-bellied Woodpecker – May 23, 24
 Red-headed Woodpecker – May 12
 Ring-necked Duck – April 3
 Sandhill Crane – April 2
 Whimbrel – May 24
 Yellow-breasted Chat – April 30
 Western Grebe – May 8

Fall 2011 Migration Summary

Fall migration monitoring began on August 5 and continued until November 12 with a total of 98 days of coverage. 163 species were detected within the study area.

Table 3. Fall Coverage and Results

Unit	2011	2010	2009	2008	2007	2006	2005	2004	2003
Days with coverage	98	93	96	97	96	87	91	95	84
Net Hours	3404	4531	2641	NA	6835	6085	6816	7388	6726
Total Species Detected	163	170	158	127	185	176	180	173	161
Birds Banded	1473	2592	1190	8	3391	4473	4247	3870	3327
Birds Recaptured	226	308	120	0	423	429	560	614	623
Captured Unbanded	70	86	38	0	125	515	382	429	152
Total Captures	1772	2986	1348	8	3939	5419	5189	4913	4102
Birds banded/net hour	0.43	0.57	0.45	NA	0.50	0.74	0.62	0.52	0.49
Birds captured/net hour	0.52	0.66	0.51	NA	0.58	0.89	0.76	0.66	0.61

Banding

74 species were banded during fall 2011. 2586 birds were banded in 4531 net hours for a capture rate of 0.57 birds per net hour. The most productive day overall was October 1 with 157 birds banded in only 15 net hours (10.5 birds per net hour). October 2 was the next busiest day, with 152 birds banded in 25.5 net hours (6 birds per net hour). The lack of net hours on those days was due to the fact that most of the birds captured were in

the first and second net runs, forcing volunteers to shut nets. The least productive day was November 6, with only one bird banded in 40 net hours.

Table 4. Fall Banding Totals

SPECIES	TOTAL	SPECIES	TOTAL	SPECIES	TOTAL
AMGO	2	EAPH	4	PHVI	12
AMRE	28	EATO	1	RCKI	252
AMRO	13	EAWP	5	REVI	18
ATSP	16	EUST	15	RWBL	2
BAOR	28	FISP	2	SCJU	28
BAWW	2	FOSP	8	SOSP	31
BBWA	4	GCKI	211	SWSP	20
BCCH	9	GCTH	18	SWTH	26
BGGN	1	GRCA	27	TEWA	10
BHVI	1	HETH	145	TRFL	5
BLJA	7	INBU	2	VEER	6
BLPW	21	LEFL	3	WAVI	21
BRCR	48	LISP	6	WCSP	6
BRTH	1	MAWA	31	WIFL	1
BTBW	18	MOWA	2	WIWA	20
BTNW	9	MYWA	168	WIWR	13
CAWA	8	NAWA	45	WPWA	5
CEDW	13	NOCA	7	WTSP	126
CHSP	1	NOPA	1	YBFL	4
COGR	1	NOWA	6	YBSA	4
COYE	18	NSHR	1	YEWA	22
CSWA	8	OCWA	4	YSFL	3
DOWO	2	OROR	1		
EAKI	4	OVEN	8		

Recaptures

There were 226 recaptures in fall 2011. Of 226 recaptures, 22 were “return” individuals banded in a previous season at TTPBRS and 156 were “repeats”, birds banded during a previous season at TTPBRS. 47 records were multiple captures of the same individuals. There was also an exciting “foreign” recapture – a bird which was banded at another station. The bird was a Myrtle Warbler (2490-36370) which was originally banded on October 6 2009 by the Pelee Island Bird Observatory and was recaptured at TTPBRS on October 18 2011.

The most commonly recaptured birds were Black-capped Chickadees, Golden-crowned Kinglets, Ruby-crowned Kinglets, Song Sparrows and Yellow Warblers. Refer to Appendix C for a detailed table of recaptures.

Highlights



Black Scoter – November 6
Bobolink – September 3 & 9
Cackling Goose – November 10
Common Redpoll – November 4
Green Heron – August 30, September 2
Lapland Longspur – October 23, November 6
Northern Shrike – banded November 3
Orchard Oriole – banded August 5
Olive-sided Flycatcher – September 9
Tundra Swan – November 12

Education and Outreach



TTPBRS continues to engage the community through educational programming. Banding demonstrations and interpretive talks were given to over 1000 people at TTPBRS in 2011. This figure includes park visitors, students and special groups.

Volunteerism

Providing educational opportunities for those interested in bird research is a critical role for the research station, as venues for hands-on learning are hard to find. Many of our trainees have gone on to bright futures in the environmental field through experience at TTPBRS.

With only one paid staff person, TTPBRS truly is volunteer-driven. This year 27 volunteers contributed a total of 3,200 hours to the migration monitoring program! Although some volunteers move on or move away, most

of our crew is made up of long-term volunteers who commit to one or more days per week, year after year. 18 of the 27 people who volunteered this year were people returning from previous seasons!

Thank you to all of our committed volunteers who make this program possible!

Volunteer	Total Hours
Andreas Jonsson	183.27
Antonio Coral	44.62
Bob Kortright	59.00
Bronwyn Dalziel	360.34
Charlotte England	34.50
Dell Tune	50.34
Denise Potter	148.67
Don Johnston	96.33
Elizabeth Purves	120.08
Emily Rondel	62.57
Glenn Reed	197.56
Ian Sturdee	148.17
Ilona Lewis	15.00
John Crawford	189.93
Josh Shook	98.30
Juan Zuloaga	47.79
Lisa Chou	126.38
Lisa Myslicki	55.96
Mark Field	240.85
Maryann Stumpf	23.33
Maya Ricker-Wilson	114.84
Paul Xamin	350.32
Priscilla Lai	69.50
Theresa McKenzie	201.38
Tom Flinn	118.00
Whitney Pyper	22.50
Zoe Southcott	21.17
TOTAL HOURS	3200.70

Weekly Bird Walks

This year TTPBRS started to offer bird walks each Saturday, led by volunteers Bob Kortright and Tom Flinn. Participants met at the entrance at 8:00 and were guided through the base lands before heading up the road to the research station, where they got to see bird banding demonstrations. The bird walks have been a great way to educate people about the importance of urban greenspace and to further the mission of TTPBRS. Over the course of the spring and fall, 129 participants enjoyed bird walks.

Winged Migration

Winged Migration combines an in-class lesson in bird biology with a field trip to Tommy Thompson Park, where children experience the life of birds firsthand. During spring and fall 2011 we offered the Winged Migration program to a total of 307 students from 9 schools.

The highlight of the trip is a visit to the Tommy Thompson Park Bird Research Station where they get to see a bird banding demonstration and learn about migration monitoring.

Media

TTPBRS was well featured in local, national and international media in 2011, including CP24 and CTV News. This allowed TTPBRS to expand its reach to the broader public.

2011 Baillie Birdathon

During May 2011 TTPBRS participated in the annual Baillie Birdathon, a fundraiser organized by Bird Studies Canada. Participants go birding any day in May during a 24 hour period and try to find as many bird species as they can. Birdathoners find pledges at a flat rate or for each species they see. 90% of the money raised is donated to TTPBRS, and the rest goes to Bird Studies Canada to fund bird conservation projects. This year participants raised \$12,176.50

Participant	Amount Raised
David Love	\$5,225.00
Marc Dupuis-Desormeaux	\$2,335.00
Brett Tryon	\$2,115.00
Andrew MacDonald	\$1,380.00
Ian Sturdee	\$1,081.00
Andrea Chreston	\$20.00
Chip and Linda Weseloh	\$20.00
Total	\$12,176.50

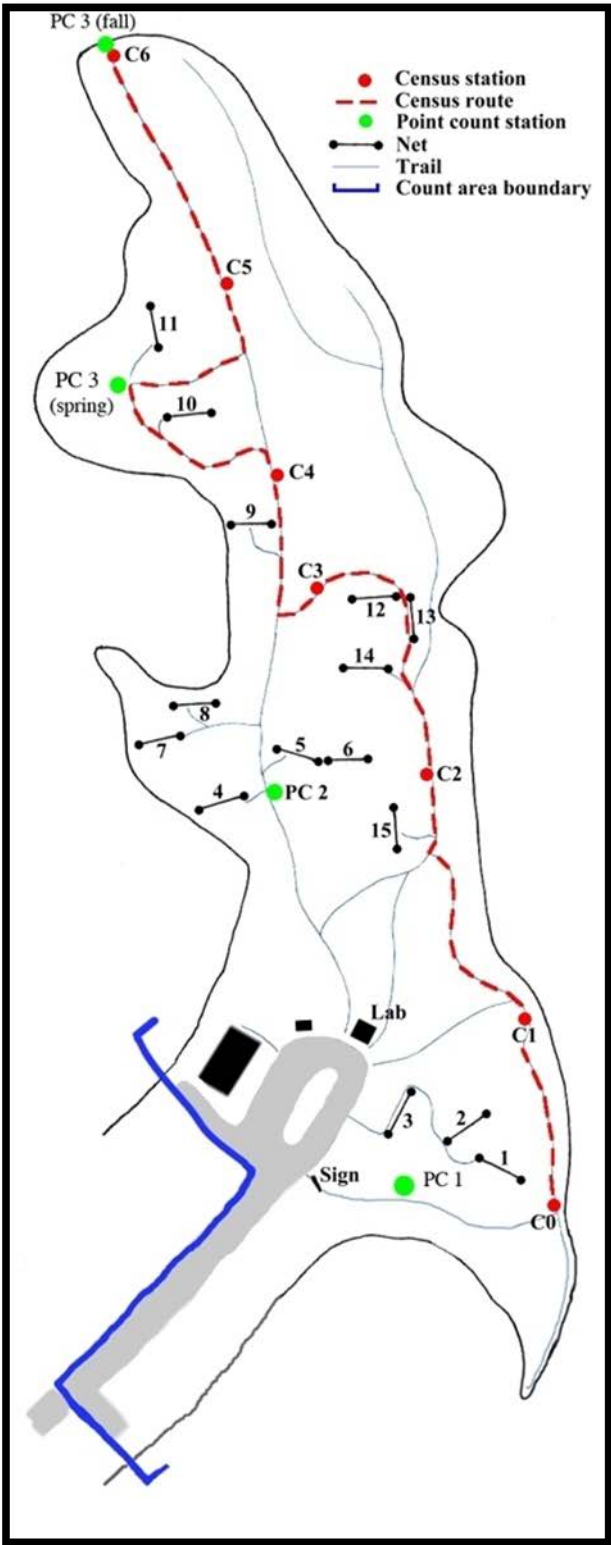
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Appendices

Appendix A. Count Area Map



Appendix B. Spring 2011 Recaptures

Species	Repeat Individuals	Return Individuals	Multiples	Foreign	Total
AMGO	3	2	1	0	6
AMRO	5	2	3	0	10
ATSP	3	1	1	0	5
BAOR	5	1	1	0	7
BCCH	2	4	2	0	8
BGGN	1	0	0	0	1
BHCO	1	2	2	0	5
BLPW	1	0	0	0	1
BRCR	2	0	0	0	2
BRTH	0	1	0	0	1
CAWA	2	0	0	0	2
COGR	0	2	0	0	2
DOWO	1	2	2	0	5
EAKI	0	2	0	0	2
EAPH	2	0	1	0	3
FISP	1	0	0	0	1
FOSP	2	0	0	0	2
GCKI	20	0	5	0	25
GCTH	2	0	0	0	2
GRCA	2	6	5	0	13
HETH	6	0	2	0	8
HOWA	1	0	0	0	1
LEFL	1	1	1	0	3
MAWA	2	0	0	0	2
MOWA	1	0	0	0	1
MYWA	7	0	0	0	7
RCKI	5	0	0	0	5
RWBL	5	9	2	0	16
SCJU	6	0	0	0	6
SOSP	13	2	11	0	26
SWSP	4	0	0	0	4
TRES	0	0	0	1	1
TRFL	0	1	2	0	3
WAVI	2	5	3	0	10
WCSP	2	0	0	0	2
WIFL	1	0	0	0	1
WIWR	1	0	0	0	1
WPWA	4	0	1	0	5
WTSP	4	0	0	0	4
YEWA	14	14	30	0	58
TOTAL	134	57	75	1	267

Appendix C. Fall 2011 Recaptures

Appendix D. Top Ten Species Banded 2003-2011

Rank	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	GCKI	GCKI	GCKI	GCKI	WTSP	WTSP	GCKI	GCKI	
2	WTSP	WTSP	RCKI	RCKI	RCKI	MYWA	WTSP	MYWA	
3	RCKI	RCKI	BCCH	WTSP	GCKI	MAWA	RCKI	BCCH	
4	HETH	MYWA	WTSP	MYWA	MYWA	RWBL	MYWA	WTSP	
5	SWTH	HETH	MYWA	MAWA	HETH	SWTH	SWTH	HETH	
6	MYWA	MAWA	SWTH	NAWA	SWTH	SOSP	HETH	SWTH	
7	BRCR	SWTH	HETH	SWTH	MAWA	RCKI	YWAR	RCKI	
8	SCJU	YWAR	MAWA	HETH	SCJU	YWAR	SCJU	MAWA	
9	NAWA	NAWA	SCJU	SCJU	BRCR	COYE	RWBL	SCJU	
10	MAWA	TRFL	BRCR	BRCR	NAWA	HETH	SOSP	NAWA	