Migration Monitoring at TTPBRS

2010

Baltimore Oriole (B. Tryon)

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Toronto and Region Conservation
Restoration Services

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Toronto and Region Conservation for The Living City

Tommy Thompson Park
Toronto's Urban Wilderness

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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 2010 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 2010 Migration Summary

Spring migration monitoring commenced on April 1 and ran until June 9th for a total of 66 days of coverage. 152 species were detected within the study area. Diversity peaked on May 10 with 74 species detected, compared to a low of 26 species on April 16.

Table 1. Spring Coverage and Results

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

Banding

75 species were banded during spring 2010. A total of 1399 birds were banded in 3227 net hours for an average capture rate of 0.43 birds per net hour. The highest banding total was on May 10 when 114 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.

Myrtle Warbler (B. Tryon)

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 2010 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 2010. 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

Northern Shrike (J. Zuloaga)

Olive-sided Flycatcher (B. Tryon)

Northern Shrike banded on April 4 – the second banding record
Yellow Palm Warbler banded on April 5 – the third banding record
Olive-sided Flycatcher banded on June 5 – the first banding record
Pine Warbler observed on April 22, 23 and 30
Redhead observed on April 3
Ring-necked Duck observed April 1-3
Whimbrel observed May 23,24
White-winged Scoter observed on April 5,6
Yellow-throated Vireo observed on May 18,20

Personnel

Volunteer Zak Smith (B. Tryon)

21 volunteers contributed 1,525 hours in spring 2010. 15 of these were returning to TTPBRS from previous years, and 6 were new volunteers. Several volunteers dedicated additional time to assist with data entry and fundraising.

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

Table 3. Spring Volunteer Hours

Name	Total Hours
Bronwyn Dalziel	274.45
Maya Ricker-Wilson	139.73
Mark Field	130.47
Paul Xamin	122.66
Ian Sturdee	117.99
Theresa McKenzie	104.16
Andrew Jano	103.05
Don Johnston	97.50
Dell Tune	91.31
John Crawford	79.66
Priscilla Lai	56.33
Josh Shook	45.41
Zak Smith	36.50
Juan Zuloaga	29.99
Marc Dupuis Desormeaux	24.40
Bindu Kaimal	22.66
Larry Menard	16.17
Tom Flinn	14.00
Paul Prior	9.50
Jeremy H	5.25
Bernie Monette	4.00
Total Hours	**1525.19**

Fall 2010 Migration Summary

Fall migration monitoring began on August 5 and continued until November 12 with a total of 92 days of coverage. 270 species were detected within the study area.

Table 4. Fall Coverage and Results

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

Banding

74 species were banded during fall 2010. 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 5. Fall Banding Totals

Species	Total	Species	Total	Species	Total
AMGO	2	EUST	27	RBNU	4
AMRE	25	FISP	1	RCKI	138
AMRO	16	FOSP	15	REVI	24
ATSP	17	GCFL	5	RWBL	1
BAOR	24	GCKI	555	SCJU	72
BAWW	7	GCTH	34	SCTA	1
BBWA	3	GRCA	23	SOSP	27
BCCH	264	HAWO	2	SSHA	3
BGGN	1	HETH	171	SWSP	11
BHVI	5	HOWR	1	SWTH	71
BLJA	12	INBU	1	TEWA	9
BLPW	21	LEFL	7	TRFL	26
BRCR	51	LISP	6	VEER	10
BTBW	34	MAWA	59	WAVI	32
BTNW	12	MOWA	3	WCSP	24
CAWA	8	MYWA	265	WIWA	27
CEDW	5	NAWA	70	WIWR	12
CMWA	5	NOCA	7	WPWA	16
COYE	26	NOPA	2	EWPW	1
CSWA	8	NOWA	8	WTSP	182
DOWO	2	OCWA	5	YBFL	4
EAKI	4	OVEN	21	YPWA	1
EAPH	15	PHVI	10	YSFL	3
EATO	1	PUFI	1	YEWA	14
EAWP	4	RBGR	2	**TOTAL**	**2586**

Recaptures

There were 313 recaptures in fall 2010, which is the lowest number ever recorded in a fall season at TTPBRS. Of 120 recaptures, 2 were “return” individuals banded in a previous season at TTPBRS and 76 were “repeats”, birds banded during fall 2009 at TTPBRS. 37 records were multiple captures of the same individuals. 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


Whip-poor-will (B. Tryon)

Red-shouldered Hawk – observed on August 26 (1st TTPBRS record)
Golden-winged Warbler – Observed August 29 – Sept 1
Connecticut Warbler – observed on September 1
Yellow Palm Warbler – banded on September 20
Whip-poor-will – banded on October 7 (1st TTPBRS banding record)
American White Pelican – observed on October 9
Laughing Gull – observed on October 19 (first TTPBRS record)
Ruddy Duck – observed on October 24
Cave Swallow – observed on October 26 (1st TTPBRS record)
Red Crossbill – observed on November 2 (1st TTPBRS record)
White-winged Crossbill – observed on … (1st TTPBRS record)
American Avocet – observed on November 7 (1st TTPBRS record)

Personnel


Volunteer Maya Ricker-Wilson (B. Tryon)

With only one paid staff person, TTPBRS truly is volunteer-driven. This fall 19 volunteers contributed a total of 2,212 hours to the fall 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. 17 of the 19 people who volunteered this fall were people returning from previous seasons!

Table 6. Fall Volunteer Hours

Name	Hours
Bronwyn Dalziel	293.88
Paul Xamin	268.54
Ian Sturdee	185.34
Theresa McKenzie	164.66
Priscilla Lai	155.45
John Crawford	146.21
Zoe Southcott	130
Maya Ricker-Wilson	117.26
Glenn Reed	111.44
Don Johnston	100.17
Tom Flinn	94.56
Dell Tune	88.73
Josh Shook	72.88
Mark Field	68
Bob Kortright	64
Juan Zuloaga	58.21
Lisa Myslicki	43.84
Zack Smith	34.84
Paul Prior	13.5
	2,212

Education and Outreach

TTPBRS continues to engage the community through educational programming. Banding demonstrations and interpretive talks were given to 1000 people at TTPBRS in 2010. This figure includes park visitors, students and special groups.

Volunteer Training

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.

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 2010 we offered the Winged Migration program to a total of 503 students from 17 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.

"We learned many things that day. We became skilled at using binoculars. Through our knowledgeable guide Andrea, we were introduced to and observed many species of plants, trees, and, most importantly, birds. We heard interesting stories about how invasive species had a negative impact on the park. We enjoyed participating in bird-themed activities. ***Perhaps our favourite part was learning about bird research work from the researchers, and seeing birds up close****."*

-- Ms. Waywell's Grade 6 Class, Canadian Martyrs Catholic School

Media

TTPBRS was well featured in local, national and international media in 2010, which significantly increased our outreach to the public. We were featured in the Toronto Star, the National Post, Global National, and CP24. In addition, Brett Tryon wrote a feature article on Toronto birding in Local Magazine.

2010 Baillie Birdathon

During May 2010 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.

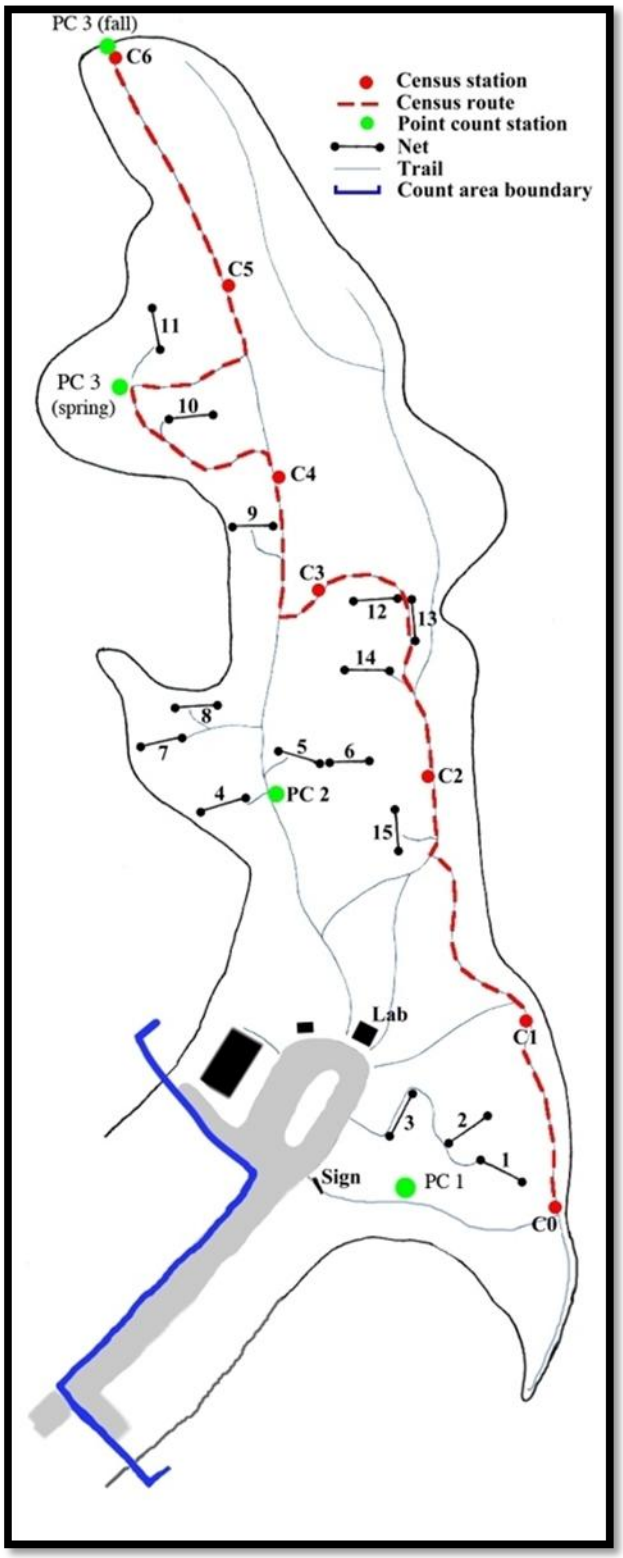
Acknowledgements

TRCA would like to thank all the volunteers who made 2010 Migration Monitoring possible:

Andrew Jano, Bernie Monette, Bindu Kaimal, Bob Kortright, Bronwyn Dalziel, Dell Tune, Don Johnston, Glenn Reed, Ian Sturdee, Jeremy H, John Crawford, Josh Shook, Juan Zuloaga, Larry Menard, Lisa Myslicki, Marc Dupuis Desormeaux, Mark Field, Maya Ricker-Wilson, Paul Prior, Paul Xamin, Priscilla Lai, Theresa McKenzie Tom Flinn, Zack Smith, Zoe Southcott

Appendices

Appendix A. Count Area Map



Appendix B. Spring 2009 Recaptures

Species	Repeat Individuals	Repeat Multiples	Return Individuals	Return Multiples	Foreign	Grand Total
AMGO	4	5	2			11
AMRO	3		3	7		13
ATSP	3	1	1	2		7
BAOR	3	2	4	3		12
BCCH	3	2	3	6		14
BHCO	4	3	2	1		10
BLBW	1					1
BLPW	3					3
BRTH			1			1
BTBW	1					1
CAWA	1					1
CEDW	1					1
COYE	7	3				10
CSWA	1					1
EAKI	1		1			2
EAPH	1	1				2
FOSP	1					1
GCKI	10	2				12
GRCA	3	2	5	3		13
HETH	3					3
MAWA	1					1
MYWA	5					5
NAWA	2					2
NOWA	2	5				7
OVEN	1					1
PUFI	1					1
RBGR	1					1
RCKI	5					5
RWBL	7		5			12
SCJU	2					2
SOSP	9	13	4	2		28
SWSP	5					5
SWTH	7	3				10
TRFL	1					1
VEER	1					1
WAVI	1		6			7
WCSP	1					1
WIWA	6	1				7
WPWA	4					4
WTSP	8	3				11
YWAR	14	9	9	8		40
TOTAL	138	55	46	32	0	271

Appendix C. Fall 2009 Recaptures

Species	Repeat Individuals	Repeat Multiples	Return Individuals	Return Multiples	Foreign	Grand Total
AMGO	1					1
AMRE	1					1
AMRO	1					1
BCCH	17	32	2	2		53
BTBW	2					2
COYE	1					1
DOWO	1					1
GCKI	19	2				21
GRCA	1					1
MYWA	1					1
NOCA	2		1			3
RCKI	9					9
SCJU	2					2
SOSP	5	3				8
SWSP	1					1
SWTH	2					2
TRFL	2					2
WAVI			1			1
WIWR	1					1
WTSP	2					2
YBSA	1					1
YWAR	4		1			5
TOTAL	76	37	5	2	0	120

Appendix D. Top Ten Species Banded 2003-2010

Rank	2003	2004	2005	2006	2007	2008	2009	2010
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