Migration Monitoring at TTPBRS

Spring 2012

Photo courtesy of Amanda Guercio

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Toronto and Region Conservation for The Living City

Tommy Thompson Park
Toronto's Urban Wilderness

Table of Contents

Migration Monitoring at TTPBRS 1
2012 1
Introduction ..... **Error! Bookmark not defined.**
Study Site 3
Toronto and Region Conservation (TRCA) 3
Migration Monitoring Program 3
Rationale 3
Methods 3
Spring 2012 Migration Summary 4
Banding 4
Recaptures 5
Highlights 6
Education and Outreach 6
Volunteerism 6
Winged Migration 7
Media 8
2012 Baillie Birdathon ..... **Error! Bookmark not defined.**
Acknowledgements 8
Appendices 8

Table of Figures

Table 1. Spring Coverage and Results ..... **Error! Bookmark not defined.**
Table 2. Spring Banding Totals ..... **Error! Bookmark not defined.**
Table 3. Spring Volunteer Hours ..... **Error! Bookmark not defined.**

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 result of the 2012 spring season 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 lake-filling 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 2012 Migration Summary

Spring migration monitoring commenced on April 1 and ran until June 5th for a total of 68 days of coverage. 162 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	2012	2011	2010	2009	2008	2007	2006	2005	2004
Days with coverage	68	69	65	68	68	67	64	67	69
Total Species Detected	162	168	152	164	188	178	179	173	161
Birds Banded	2722	1172	1399	1530	1893	2638	2570	2547	2519
Birds Recaptured	469	521	210	271	361	369	470	468	604
Captured Un-banded	32	51	54	34	35	107	54	78	236
Total Captures	3223	1744	1663	1835	2289	3114	3094	3093	3359
Net Hours	4474	2723.3	3227	3321	4790	4595	4687	5492	5317
New birds banded/net hour	.57	.43	.43	.46	.39	.57	.54	.46	.47

Banding

83 species were banded during spring 2012. This includes two hybrids and a race. A total of 2722 were banded in 4474 hours for an average capture rate of 0.57 birds per net hour. The highest banding total was on May 3, when 390 birds were banded. The highest capture rate was on May 3rd, with a rate of 4.20 birds per net hour. The least productive day was April 00 with a total of 0 birds banded and 0.000 birds per net hour.

Table 2. Spring Banding Totals

Species	Total	Species	Total	Species	Total
AMGO	47	EAPH	19	OCWA	6
AMRE	40	EAWP	8	OVEN	34
AMRO	33	EUST	1	PHVI	2
ATSP	19	EWCS	42	RBGR	6
BAOR	10	FISP	2	RCKI	39
BAWW	42	FOSP	10	REVI	11
BBWA	1	GCFL	2	RUBL	1
BLPW	11	GCKI	32	SAVS	2
BGGN	2	GCTH	34	SCJU	25
BHCO	12	GRCA	45	SCTA	2
BHVI	6	GWCS	1	SOSP	41
BLBW	8	HETH	79	SPSA	1
BRWA	1	HOWA	1	SWSP	51
BTBW	19	HOWR	5	SWTH	151
BTNW	21	INBU	2	TRES	8
BLJA	1	KILL	2	TRFL	88
BRCR	11	LEFL	13	TEWA	9

BRTH	3	LISP	43	VEER	34
CAWA	15	MAWA	103	WAVI	13
CEDW	54	MOWA	2	WTSP	183
CHSP	1	MYWA	408	WIWA	7
CMWA	15	NAWA	216	WOTH	8
COGR	21	NOCA	1	WPWA	129
COYE	65	N0PA	8	YSFL	3
CSWA	22	NOWA	15	*HYWA	1
EAKI	8	NRWS	9		
YEWA	119	YBSA	2	TOTAL	**2722**
YBFL	11	YBCH	1		

Recaptures

During spring 2012 there were 469 recaptures. 56 individuals were repeats (banded at TTPBRS the same season) and 18 were returns (banded at TTPBRS a previous season). All but one 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

Hybrid warbler…. Townsend's X Black-throated grey

Yellow-breasted chat…… 1 individual banded on May 30th
Hooded warbler……1 Individual banded on May 11th
Golden-winged warbler……1 individual sighted on May 14th
Forester's tern……..1 individual sighted in April
Iceland gull……numerous sightings April
Glaucous gull……1 individual sighted in April
Pileated woodpecker……..1 individual sighted in May
Red-bellied woodpecker……individuals sighted in May and June

On April 30th, Ian Sturdee retrieved a lone warbler from net A. Upon extraction he puzzled over the identification, and brought it back to the banding lab. He had concluded the bird was a Townsend's warbler, and upon removing from the bird bag we all initially agreed!! This was a western bird and quite the rarity for the station. Upon closer scrutiny, we realized it wasn't quite right. We took lots of photos and released the bird. We had come to the conclusion it was a hybrid, between a Townsend's and a Black-throated grey warbler! Even more of a rarity! That evening the pictures were forwarded to the group of professionals in this field, and that next morning all had agreed that was the bird!
Either one of the parent birds would have been a very good bird to see, but considering there are only a handful of documented cases of these two birds hybridizing, it was exceptional indeed! Needless to say, the pictures taken are the best representation of this hybrid on file now.

Education and Outreach

TTPBRS continues to engage the community through educational programming. Banding demonstrations and interpretive talks were given to over 500 people at TTPBRS in the spring of 2012. 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	32
Amanda Guercio	222.5
Erika Pfaff	31
Bronwyn Dalziel	194
Charlotte England	84.5
Bruce Wilson	102
Denise Potter	86.5
Don Johnston	37.5
Courtney Shaw	91.5
Jackie Shaw	8
Jocelyn Shaw	8
Clara Siu	28
Glenn Reed	119.5
Ian Sturdee	75.5
Josh Shook	50.5
Lisa Myslicki	43.5
Maya Ricker-Wilson	60
Paul Xamin	164.5
Priscilla Lai	6
Theresa McKenzie	101
Tom Flinn	27.5
Greg Sadowski	8
Brett Tryon	8
TOTAL HOURS	***1507.0***

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.

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 2012 we offered the Winged Migration program to students from 5 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

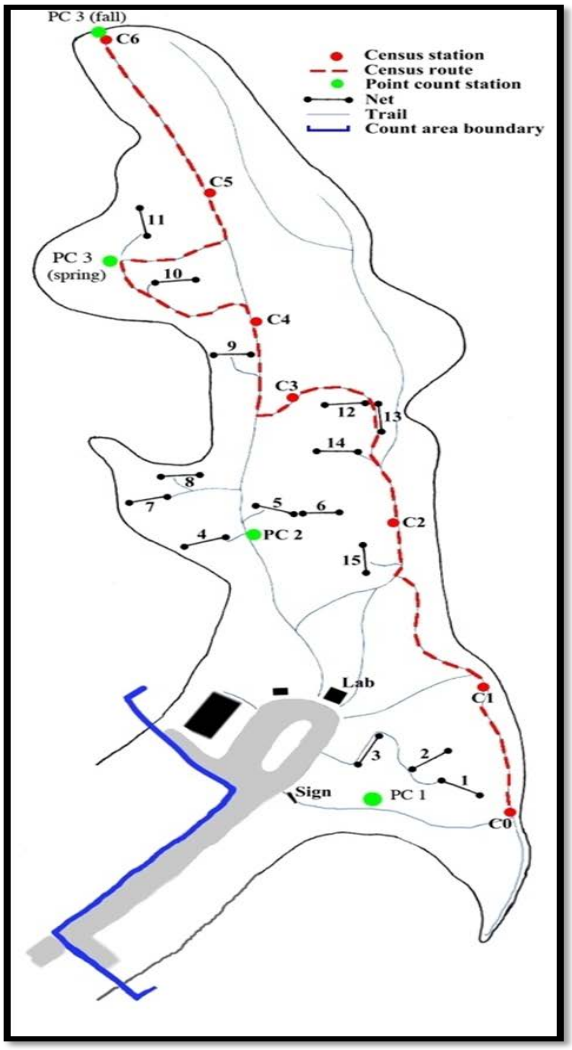
TTPBRS was well featured in local, national and international media in 2012, including the Toronto Star and CTV News. This allowed TTPBRS to expand its reach to the broader public.

Acknowledgements

TRCA would like to thank all the volunteers who made 2012 spring Migration Monitoring possible:

Amanda Guercio, Charlotte England, Bronwyn Dalziel, Don Johnston, Glenn Reed, Ian Sturdee, Josh Shook, Lisa Myslicki, Denise Potter, Maya Ricker-Wilson, Paul Xamin, Priscilla Lai, Theresa McKenzie, Tom Flinn, Bruce Wilson, Courtney Shaw, Jocelyn Shaw, Jackie Shaw, Greg Sadowski, Andreas Jonsson, Erika Pfaff, and Claira Sui.

Appendices



Appendix A. Count Area Map

Appendix B. Spring 2011 Recaptures

Species	Repeat Individuals	Return Individuals	Foreign	Total
AMGO	6	1		7
AMRE	1			1
AMRO	23			23
ATSP	2	1		3
BAWW	10			10
BAOR	4	15		23
BCCH	7			7
BHCO				8
BHVI	1			1
BRTH	1			1
BTBW	1			1
BTNW	1			1
CAWA	2			2
COYE	12			12
CSWA	3			3
DOWO	2	1		3
EAPH	1			1
FOSP	1			1
GCKI	9			9
GCTH	6			6
GRCA	24			24
GWCS	1			1
HETH	8			8
LEFL	1			1
LISP	3			3
MAWA	15			15
NAWA	25			25
MYWA	18			18
NOCA	1	1		2
NOPA	1			1
OVEN	1			1
PHVI	1			1
RCKI	2			2
RWBL	20			20
SCJU	1			1
SOSP	39			39

SWSP	7		7
SWTH	1		1
TRES	1		1
TRFL	4		4
VEER	2		2
WAVI	24		24
WIWA	1		1
WPWA	4		4
WTSP	14		14
YEWA	60	48	108
TOTAL			**462**

This spring recaptured a good number of the birds that breed within the Park. American robin, Red-winged blackbirds and Grey catbirds were represented well.
Birds were encountered in the4-7 year range for these species. A Baltimore oriole, 1841-88661, was first banded on May 27th 2006. It was re-trapped June 7th 2012. The bird was banded as an After Second Year, making it at least 3 years at time of banding. This puts the bird at least 9 years old. Two other records exist for longevity for this species one at 12 years , the other 11 years 7 months. Both these birds were found dead so or bird still has a chance of being on the list! Most Baltimore orioles winter from Florida, Central America to the top of South America. Cuba and surrounding islands are also included in the winter range. This individual has made the migration at least 18 times!

Recapture Highlights

SPECIES	BAND NUMBER	DATE BANDED	BANDER	DATE RECAPTURED	BANDER	AGE
Baltimore oriole	1841-88661	May 27, 2006	JM	June 3, 2012	BAW	9+
Baltimore oriole	1841-88872	Sept 16, 2007	DGD	May 17, 2012	NJS	6
Gray catbird	1841-88693	June 8, 2006	DGD	June 4, 2012	NJS	7
Gray catbird	1841-88467	Sept 19, 2005	DGD	May 9, 2012	GR	7
Red-winged blackbird	1212-61143	April 27,2006	DGD	May 5, 2012	AG	7
Yellow warbler	2400-04267	May 8, 2008	BET	May 30,2012	BKD	6+
Yellow warbler	2400-04024	May 17, 2008	JMD	May 3, 2012	AG	5
American tree sparrow	1551-45661	April 9, 2011	BET	April 4, 2012	NJS	3

***recaptured multiple times during 2012 spring season.**

****not a significant age, but this species does not breeds at TTPBRS it would have been migrating through.**

2012 recaptures						
species	**WAVI**	**YEWA**	**SOSP**	**AMRO**	**RWBL**	**BAOR**
Individuals encountered	**14**	**54**	**19**	**10**	**16**	**11**
Year banded	**2012 x 2**	**2012 x 29**	**2012 x 15**	**2012 x 4**	**2012 x 3**	**2012 x 3**
	2011 x 7	**2011 x 12**	**2011 x 1**	**2011 x 3**	**2011 x 2**	**2011 x 5**
	2010 x 2	**2010 x 8**	**2010 x 2**	**2010 x 1**	**2010 x 6**	**2010 x 1**
	2009 x 1	**2009 x 3**	**2008 x 1**	**2009 x 1**	**2009 x 3**	**2009 x 1**
	2008 x 1	**2008 x 2**		**2008 x 1**	**2008 x 1**	**2007 x 1**
	2007 x 1				**2006 x 1**	**2006 x 1**
Oldest birds	**5 yrs x 2**	**7+ yrs x 1**	**5 yrs x 1**	**6+ yrs x 1**	**7 yrs x 1**	**9+ yrs x 1**
	3 yrs x 6	**6 yrs x 1**	**4 yrs x 1**	**6 yrs x 1**	**6+ yrs x 1**	**6 yrs x 1**

For the comparison I chose 6 of the common breeders in the site.
The chart clearly shows the difference with the species that have set up early territories, such as AMRO and RWBL that defend against new birds and migrants.
The YEWA and SOSP migrate through in larger numbers and stop-over, either for feeding or possible breeding. More than half the re-captures of YEWA were of birds that had been banded this season.
In comparison birds like the AMRO and RWBL that were banded this season, did not stop-over as long to be re-captured. The birds on territory had been there since April and did not tolerate the migrant birds.
Each of the species exhibit breeding site fidelity with birds returning that were previously banded up to 6 years earlier.