



Northern Oriole on Port Weller West Pier 2015 - Marcie Jacklin

Port Weller West Pier Migration Study, May 2015

J. E. Black, June 2015

1-Introduction

Each morning in May, from 1993 to 1997, observers recorded the number of individual birds (primarily passerine migrants) seen or heard on the Port Weller West Pier north of the coast-guard station and on the Port Weller East Pier beside a small island.

The “1993-1997 Study,” as it was called, was designed to be repeatable so that changes in bird numbers, if any, occurring in the future could be detected. The year (2013) seemed appropriate for starting such a repeat since 20 years is the period between successive Ontario Bird Atlases. Unfortunately, the habitat near the island on the East Pier has changed dramatically since the years 1993 to 1997. No comparison of the island birds of the first study with the island birds of today would be meaningful; therefore, we systematically counted birds only on the West Pier area north of the coast-guard station. Counts were also, however, conducted informally in Malcomson Woods.

This is the third year of the 5-year study. Copies of the full Reports including Tables and Appendices for the years 2013, 2014 and 2015 are available in the reports entitled “Port Weller West Bird Migration Study - May 2013, Port Weller West Bird Migration Study - May 2014 and Port Weller West Bird Migration Study - May 2015” at <http://www.brocku.ca/tren/niagarabirds>.

In this report data available for study obtained in May 2015 (and in earlier studies) are described in Section 2. In Section 3 results from 2015 are compared with those of the preceding two years and those for the years of the 1993-1997 study. In Section 4 a comparison is made between the three-year total number of individuals observed in the years 2013 to 2015 and the three-year total number of individuals observed in the years 1993 to 1995. The emphasis of this comparison is on identifying species observed in the first three years of the current study whose totals lie above or below the range of totals observed in the first three years of the 1993-1997 Study.

While the comparison of these first three years is suggestive, it is now clear that what is needed is a comparison of the averages and mean numbers for each species over the 1993-1997 period with averages and mean numbers for each species over the 2013-2017 period; therefore, this report concludes in Section 5 with a recommendation that the study be repeated in 2016 and 2017.

Many observers were willing to donate their time and expertise to the project this year. The observers were: Brian Ahara, John Black, Philip Downey, Luc Fazio, Lynda Goodridge, Jean Hampson, Bob Highcock, Carol Horvat, Marcie Jacklin, Joseph Mwangi, Judy Robins, Kayo Roy, Dan Salisbury, Tim Seburn, Nancy Smith, John Stevens and Katherine Stoltz. Note that John Black, Marcie Jacklin, and Kayo Roy participated in the 1993-1997 Study.



Left to right: Judy Robins, Nancy Smith and John Stevens at start of count area 2015 - John Black

2-Data from May 2015 and earlier studies.

The focus of this study is passerine migrants. Some abundant passerines not counted were American Robins, Blue Jays, American Crows, Black-capped Chickadees, European Starlings, Northern Cardinals, Red-winged Blackbirds, Common Grackles and House Sparrows. These are birds that breed in the Niagara Region and are very common here. The only non-passerines counted were Ruby-throated Hummingbirds, Red-bellied and Red-headed Woodpeckers, Yellow-bellied Sapsuckers, Cliff Swallows, Purple Martins and cuckoos.

A discussion of the 1993-1997 Study results is presented in the chapter entitled “Monitoring Migrants on the Port Weller Piers in May 1993-1997” in *Niagara Birds* (Black and Roy (2010)) and in Black (1997). See also Black (1993...1997).

A description of the count protocol is provided in Appendix 1. The Port Weller Checklist used by the counters in this study, and in the 1993-1997 Study, is shown in Appendix 2 and the data entry checklist used by the 2015 compilers is shown in Appendix 3.

Appendix 4 contains a discussion of the West Pier study area in 2013 and the changes that have occurred in the habitat since the 1993-1997 study. Several additional changes in the habitat have occurred since May 2013 and they are described in Appendix 4-2014

Results for 2013 for the island on the Port Weller East pier are presented in Appendix 8. In May 2015, we systematically counted birds only on the West Pier area north of the coast-guard station. There is therefore no island data for 2015.

A summary of the birds counted in 1993 on the West Pier is presented in Appendix 5. Detailed results for the Port Weller West Pier Study from 1993 to 1997 are presented in Table A5.1 in the Appendix.

Results from the 2015 study are presented in Tables 2015:

Table 0-2015 Totals 2013 – 2015 and 1993-1997.

Table 1-2015 All Port Weller West Pier data 2015.

Table 2a-2015 A Comparison of 2015 and 1993-1997. Results for All Species.

Table 3a-2015 Resident species for all years.

Table 4a-2015 Three-year totals for 2013-2015 vs three-year totals for 1993-1995.

Table 7a-2015 Three-year warbler totals for 2013-2015 vs 1993-1995

The basic day by day observational data for Port Weller West are presented in Table 1-2015. Note that inclement weather was not a problem, and the count, as it did in the 1993-1997 Study, took place on all 31 days in May. (May 31 was the only rainy day.) Three-year totals for 2013-2015 and 1993-1995 are also presented in Table 0-2015.

Daily counter notes from 2015, along with information on species of birds not included in the count, are presented in Appendix 6-2015. Perhaps the most noteworthy sighting was that of a Yellow-throated Warbler on May 7. A single Fish Crow was observed on May 7. A single Coyote was observed on several occasions.

Results from informal observations in Malcomson Eco-Park (located south of the West Pier) are described in Appendix 7.1-2015. Notable sightings include Brewer's Blackbird May 2, 2015 Katherine J. Stoltz, Prairie Warbler May 12-14, 2015 Katherine J. Stoltz and Acadian Flycatcher May 17, 2015 Daniel R Salisbury and others. In Appendix 7.1a-2015 there is a comparison of Malcomson Eco-Park and Port Weller West Pier for the three years of the study. Photographs of the Eco-Park are presented in Appendix 7.4-2015.

An unusual black swallow was observed just outside the study area by the coast-guard boat dock in 2013. It was building a nest in the exhaust port of the Cape Storm vessel. This "black swallow" is described in Appendix 9. A black swallow was also observed nest building in the Cape Storm exhaust Port in May 2014 and some information on its presence is described in Appendix 9-2014. The black swallow was again nest building in the Cape Storm exhaust Port in 2015. On May 29, 2015 the counters observed copulation between the black swallow and a second bird. The black swallow was observed to be a female.

No Double-crested Cormorants were present on the west pier in the first study. By 2013, however there were many cormorants nesting on the west pier south of the Coast Guard Station. As yet they are not nesting in the study area.



Rough-winged swallow and melanistic (or soiled by boat engine soot) partner at the coast-guard station just after the boat in which they had been building a nest in departed in 2014 - John Black

3-Comparison of the total number of individuals for each species observed in May 2015 with the total number of individuals for each species observed in each of the years 1993 to 1997

Results of the comparison are presented in Table 2a-2015 and shown below.

Species/Year	2015 Totals	1993 Totals	1994 Totals	1995 Totals	1996 Totals	1997 Totals	93- 97 max	93- 97 min	2015 relation to 93- 97 range
Ruby-throated Hummingbird	6	1	2	0	2	1	2	0	above
Red-bellied Woodpecker	6	0	0	0	2	0	2	0	above
Great Crested Flycatcher	43	1	0	2	1	0	2	0	above
House Wren	170	99	79	62	66	23	99	23	above
Gray Catbird	350	70	36	42	60	43	70	36	above
Brown Thrasher	37	1	0	4	3	10	10	0	above
Swainson's Thrush	12	1	0	7	2	1	7	0	above
Red-eyed Vireo	14	9	2	4	9	0	9	0	above
Warbling Vireo	176	44	29	19	25	34	44	19	above
Tennessee Warbler	5	3	2	2	2	1	3	1	above
Yellow Warbler	950	268	208	208	266	239	268	208	above
Magnolia Warbler	92	62	29	33	45	25	62	25	above
Blackpoll Warbler	100	22	9	7	6	0	22	0	above
Common Yellowthroat	60	40	24	33	39	21	40	21	above
Canada Warbler	7	5	1	3	3	0	5	0	above
Northern Oriole	349	62	43	44	44	40	62	40	above
American Goldfinch	367	167	177	158	170	221	221	158	above

White-crowned Sparrow	59	7	9	51	29	38	51	7	above
Northern Parula	20	1	11	3	10	5	11	1	above
Total Individuals	3707	2044	1686	1709	3459	1937	3459	1686	above
Black-billed Cuckoo	0	0	0	0	0	0	0	0	inside
Yellow-bellied Sapsucker	0	2	0	1	1	2	2	0	inside
Red-headed Woodpecker	2	4	0	1	1	0	4	0	inside
Eastern Kingbird	20	36	26	29	25	16	36	16	inside
Eastern Phoebe	1	12	0	1	0	2	12	0	inside
(Alder/Willow) Flycatcher	5	8	0	11	3	0	11	0	inside
Least Flycatcher	7	26	7	17	33	8	33	7	inside
Empidonax-species	13	0	13	16	15	49	49	0	inside
Eastern Wood-Pewee	13	11	4	18	2	2	18	2	inside
Cliff Swallow	0	0	0	0	0	1	1	0	inside
Purple Martin	0	0	1	2	2	3	3	0	inside
White-breasted Nuthatch	0	2	1	0	3	0	3	0	inside
Red-breasted Nuthatch	0	0	7	2	26	3	26	0	inside
Brown Creeper	0	0	5	2	2	0	5	0	inside
Winter Wren	1	3	0	0	3	1	3	0	inside
Carolina Wren	1	0	0	19	21	16	21	0	inside
Marsh Wren	0	0	0	0	1	0	1	0	inside
Northern Mockingbird	1	0	2	0	0	0	2	0	inside
Wood Thrush	0	1	1	0	8	0	8	0	inside
Hermit Thrush	1	1	2	13	3	4	13	1	inside
Gray-cheeked Thrush	0	2	0	0	0	0	2	0	inside
Thrush-species	1	2	0	3	5	0	5	0	inside
Veery	2	4	4	1	5	2	5	1	inside
Eastern Bluebird	1	3	0	0	3	1	3	0	inside
Blue-gray Gnatcatcher	14	11	32	25	22	12	32	11	inside
Golden-crowned Kinglet	0	2	0	3	8	2	8	0	inside
American Pipit	0	0	0	0	0	0	0	0	inside
Cedar Waxwing	21	60	17	10	2	0	60	0	inside
Blue-headed Vireo	0	1	0	4	5	0	5	0	inside
Black and White Warbler	14	9	3	30	57	21	57	3	inside
Golden-winged Warbler	0	1	0	0	0	0	1	0	inside
Blue-winged Warbler	1	0	0	1	2	0	2	0	inside
Nashville Warbler	5	3	6	15	27	21	27	3	inside
Cape May Warbler	9	32	31	9	15	3	32	3	inside
Black-throated Green Warbler	10	8	9	13	37	2	37	2	inside
Yellow-rumped Warbler	372	295	276	226	1401	435	1401	226	inside
Black-throated Blue Warbler	27	18	26	47	53	25	53	18	inside
Blackburnian Warbler	20	6	1	11	20	13	20	1	inside
Chestnut-sided Warbler	28	38	12	33	31	5	38	5	inside
Bay-breasted Warbler	17	42	13	10	4	4	42	4	inside
Prairie Warbler	0	0	0	0	0	4	4	0	inside
Palm Warbler	84	43	44	24	82	89	89	24	inside
Northern Waterthrush	6	2	5	2	20	14	20	2	inside
Mourning Warbler	2	2	0	0	0	0	2	0	inside
Wilson's Warbler	11	13	3	7	16	1	16	1	inside

American Redstart	65	72	37	59	36	14	72	14	inside
Bobolink	0	2	0	0	2	0	2	0	inside
Eastern Meadowlark	0	1	0	0	2	0	2	0	inside
Scarlet Tanager	0	1	1	0	2	0	2	0	inside
Rose-breasted Grosbeak	3	4	3	0	3	2	4	0	inside
Indigo Bunting	6	0	6	0	2	0	6	0	inside
Eastern Towhee	1	3	0	3	11	5	11	0	inside
Savannah Sparrow	1	2	0	1	1	9	9	0	inside
Vesper Sparrow	0	0	0	2	0	0	2	0	inside
Dark-eyed Junco	1	1	17	4	12	2	17	1	inside
American Tree Sparrow	0	0	0	0	1	1	1	0	inside
Field Sparrow	1	0	5	1	5	11	11	0	inside
White-throated Sparrow	38	35	54	44	111	99	111	35	inside
Fox Sparrow	0	0	0	0	0	0	0	0	inside
Lincoln's Sparrow	2	1	3	1	11	6	11	1	inside
Pine Warbler	1	0	0	0	6	0	6	0	inside
Worm-eating Warbler	0	0	0	0	0	0	0	0	inside
Orchard Oriole	0	0	2	0	0	0	2	0	inside
Purple Finch	0	0	1	0	0	5	5	0	inside
Clay-colored Sparrow	0	0	1	0	0	0	1	0	inside
Prothonotary Warbler	0	1	0	0	0	0	1	0	inside
Orange-crowned Warbler	0	0	0	2	0	1	2	0	inside
Hooded Warbler	0	0	1	0	0	0	1	0	inside
Yellow-breasted Chat	0	0	0	1	0	0	1	0	inside
Louisiana Waterthrush	0	0	0	0	0	0	0	0	inside
Wren-species	0	2	0	0	0	0	2	0	inside
Chimney Swift	0	0	0	0	0	0	0	0	inside
White-eyed Vireo	0	0	0	0	0	0	0	0	inside
Yellow-throated Vireo	0	0	0	0	0	0	0	0	inside
Philadelphia Vireo	0	0	0	0	1	0	1	0	inside
Yellow-bellied Flycatcher	0	4	1	2	1	0	4	0	inside
Olive-sided Flycatcher	0	1	0	0	0	0	1	0	inside
Cuckoo-species	0	0	0	0	0	0	0	0	inside
Vireo Species	0	0	0	0	0	0	0	0	inside
Pine Siskin	0	0	0	0	0	0	0	0	inside
Cerulean Warbler	0	0	0	0	0	0	0	0	inside
Warbler Species	0	0	0	0	0	0	0	0	inside
Total Species	64	71	60	66	77	60	77	60	inside
Ruby-crowned Kinglet	7	29	32	99	94	19	99	19	below
Ovenbird	2	4	5	7	33	8	33	4	below
Brown-headed Cowbird	38	102	131	40	97	115	131	40	below
House Finch	0	192	150	124	237	136	237	124	below
Chipping Sparrow	7	11	20	19	26	30	30	11	below
Swamp Sparrow	1	10	4	12	17	11	17	4	below

Table 2a-2015 A Comparison of 2015 and 1993-1997 Results for All Species

The total number (totals) of individuals for each species are grouped according to whether the 2015 total was above, inside or below the range of annual totals found in the 1993-1997 Study.

There are 19 instances of the 2015 total exceeding all totals for that species in the 1993-1997 Study. (24 in 2013 and 26 in 2014.) There are 5 instances of the 2015 total being less than any of the totals in the 1993-1997 Study. (8 in 2013 and 5 in 2014.)

We see that the total of all birds recorded in the 2015 count of 3707 lies above the range of totals recorded in the 1993-1997 Study. (2323 in 2013 and 3514 in 2014.) We also note that the total number of species recorded in the 2015 count of 64 of lies within the range of species observed between 1993 and 1997. (74 in 2013 and 72 in 2014.)

For purposes of simplifying the discussion of these totals, the species of Master Table 2-2015 are split into those that are resident on the West Pier (Master Table 3-2014) and species that were probably transient on the West Pier during migration. Only the residents are discussed below. A more general discussion in which three-year totals for 1993-1995 are compared with those for 2013-2015 is presented in Section 4 of the report below.

Species resident on the West Pier

The 2013, 2014 and 2015 results for Red-bellied Woodpecker, Eastern Kingbird, Great-crested Flycatcher, House Wren, Carolina Wren, Gray Catbird, Brown Thrasher, Warbling Vireo, Yellow Warbler, Common Yellowthroat, Baltimore Oriole, Brown-headed Cowbird and American Goldfinch are presented in Table 3a-2015 and shown below.

Species/Year	2013 Total	2014 Total	2015 Total	1993 Total	1994 Total	1995 Total	1996 Total	1997 Total
Red-bellied Woodpecker	15	0	6	0	0	0	2	0
Eastern Kingbird	34	27	20	36	26	29	25	16
Great Crested Flycatcher	15	22	43	1	0	2	1	0
House Wren Carolina Wren	141	162	120	99	79	62	66	23
Gray Catbird	38	3	1	0	0	19	21	16
Brown Thrasher	217	294	350	70	36	42	60	43
Warbling Vireo	36	51	37	1	0	4	3	10
Yellow Warbler	138	233	176	44	29	19	25	34
Common Yellowthroat	373	761	950	268	208	208	266	239
Baltimore Oriole	47	59	60	40	24	33	39	21
	177	341	349	62	43	44	44	40

Brown-headed Cowbird	59	103	38	102	131	40	97	115
American Goldfinch	151	248	367	167	177	158	170	221
Total Birds	1441	2304	2517	890	753	660	819	778
Total Species	13	12	13	11	9	12	13	11

Table 3a-2015 Resident species all years.

House Wren, Gray Catbird, Yellow Warbler, Baltimore Oriole and American Goldfinch were very numerous. The large numbers of these birds made counting difficult and time consuming. To count them accurately would have interfered with the time required for studying the migrants. It was decided early in the count period of 2013, therefore, simply to note if these species were present (P). However in 2014 and 2015 these species were counted. This change in protocol is in part responsible for the substantial increases in the 2014 and 2015 numbers over the 2013 values.

Note that 10 of the 13 species tabulated here have totals exceeding those found in the 1993-1997 Study. (10 in 2013, 9 in 2014) Below we distinguish between (1) birds whose large totals result primarily from the fact that they breed on or near the study area and were observed on many days, (2) species whose large totals result primarily from the fact that they were present on the West Pier in large numbers and (3) species whose numbers are comparable to those observed in the 1993-1997 Study.

Species whose large totals result from the fact that they were seen and/or heard on many days and reside on the West Pier

Red-bellied Woodpecker: only 6 observations were recorded in 2015 (one or two pairs of this species bred on the West Pier in 2013).

Great-crested Flycatcher: up to 6 of these birds were seen and/or heard on the West Pier starting on May 6 (May 20 in 2013), possibly a pair nested there.

Brown Thrasher: one or more pairs of these birds breed on the West Pier. It is not known if they breed in the study area or south of it, but one or two birds were seen and/or heard on many days. This puts the total well above the only record from the period 1993-1997 of 10 birds in 1995.

Warbling Vireo: at least three or four pairs of these birds breed in the study area and were on territory by May 4 in 2015. It would seem that there are more birds breeding on the West Pier than in the 1993-1997 count periods.

Species observed in very large numbers on the West Pier

House Wren: substantially more birds were observed in 2015 than in any year of the 1993-1997 Study.

Gray Catbird: substantially more birds were observed in 2015 than in any year of the 1993-1997 Study.



Gray Catbird On Port Weller West Pier 2015 - Marcie Jacklin

Yellow Warbler: substantially more birds were observed in 2015 than in any year of the 1993-1997 Study.

Baltimore Oriole: substantially more birds were observed in 2015 than in any year of the 1993-1997 Study.

American Goldfinch: substantially more birds were observed in 2015 than in any year of the 1993-1997 Study.

The daily total numbers of individuals for the species listed above are consistent with many remaining to breed on the West Pier (See Table 1-2015). There is a small drop in numbers following their first appearance in May. Some careful counting would be required in future studies to determine which, if any, of these birds are transient in May and would not remain to breed on the West Pier.

Species with numbers comparable to those observed in the 1993-1997 Study

Eastern Kingbird: the 2015 total is just inside the 1993-1997 range of totals.

Carolina Wren: no birds were observed in 2015. Only three birds were observed in 2014. In 2013 one or two of these birds were seen or heard in the study area on many days.

Common Yellowthroat: one or more of these birds breed in the study area. The 2015 total is comparable with those totals obtained in the 1993-1997 Study when the fact that 31 of the 2015 observations were obtained on a single day is taken into consideration.

Brown-headed Cowbird: the 2015 total is just below the 1993-1997 range of totals.

4-Comparison of the three-year total observations from 2013 to 2015 with the three-year total observations from 1993 to 1995.

The three-year totals of individuals observed from 1993-1995 are compared with three-year totals of individuals observed from 2013-2015 in Table 4a-2015. They are arranged by whether the current totals exceed, equal or are less than the totals of the earlier study.

date	1993-1995 total	2013-2015 total	Totals Comparison
Ruby-throated Hummingbird	3	17	2013-2015 greater than 1993-1995
Red-bellied Woodpecker	0	21	2013-2015 greater than 1993-1995
Great Crested Flycatcher	3	80	2013-2015 greater than 1993-1995
Empidonax-species	29	43	2013-2015 greater than 1993-1995
Eastern Wood-Pewee	33	36	2013-2015 greater than 1993-1995
Cliff Swallow	0	3	2013-2015 greater than 1993-1995
White-breasted Nuthatch	3	5	2013-2015 greater than 1993-1995
House Wren	240	473	2013-2015 greater than 1993-1995
Carolina Wren	19	42	2013-2015 greater than 1993-1995
Gray Catbird	148	861	2013-2015 greater than 1993-1995
Brown Thrasher	5	124	2013-2015 greater than 1993-1995
Wood Thrush	2	13	2013-2015 greater than 1993-1995
Swainson's Thrush	8	22	2013-2015 greater than 1993-1995
Cedar Waxwing	87	105	2013-2015 greater than 1993-1995
Red-eyed Vireo	15	24	2013-2015 greater than 1993-1995
Warbling Vireo	92	547	2013-2015 greater than 1993-1995
Blue-winged Warbler	1	2	2013-2015 greater than 1993-1995
Tennessee Warbler	7	20	2013-2015 greater than 1993-1995
Nashville Warbler	24	57	2013-2015 greater than 1993-1995
Yellow Warbler	684	2084	2013-2015 greater than 1993-1995
Magnolia Warbler	124	209	2013-2015 greater than 1993-1995
Black-throated Green Warbler	30	31	2013-2015 greater than 1993-1995
Blackburnian Warbler	18	36	2013-2015 greater than 1993-1995
Blackpoll Warbler	38	181	2013-2015 greater than 1993-1995
Prairie Warbler	0	1	2013-2015 greater than 1993-1995
Palm Warbler	111	242	2013-2015 greater than 1993-1995
Northern Waterthrush	9	25	2013-2015 greater than 1993-1995
Mourning Warbler	2	6	2013-2015 greater than 1993-1995
Common Yellowthroat	97	166	2013-2015 greater than 1993-1995
Wilson's Warbler	23	40	2013-2015 greater than 1993-1995
Canada Warbler	9	14	2013-2015 greater than 1993-1995
Baltimore Oriole	149	867	2013-2015 greater than 1993-1995
Scarlet Tanager	2	6	2013-2015 greater than 1993-1995
Rose-breasted Grosbeak	7	15	2013-2015 greater than 1993-1995

Indigo Bunting	6	22	2013-2015 greater than 1993-1995
American Goldfinch	502	766	2013-2015 greater than 1993-1995
Savannah Sparrow	3	4	2013-2015 greater than 1993-1995
Chipping Sparrow	50	83	2013-2015 greater than 1993-1995
White-crowned Sparrow	67	182	2013-2015 greater than 1993-1995
White-throated Sparrow	133	256	2013-2015 greater than 1993-1995
Pine Warbler	0	4	2013-2015 greater than 1993-1995
Clay-colored Sparrow	1	2	2013-2015 greater than 1993-1995
Northern Parula	15	42	2013-2015 greater than 1993-1995
Orange-crowned Warbler	2	3	2013-2015 greater than 1993-1995
Philadelphia Vireo	0	1	2013-2015 greater than 1993-1995
Pine Siskin	0	3	2013-2015 greater than 1993-1995
Cerulean Warbler	0	2	2013-2015 greater than 1993-1995
Warbler Species	0	4	2013-2015 greater than 1993-1995
Total Individuals	5439	9544	2013-2015 greater than 1993-1995
(Alder/Willow) Flycatcher	19	19	2013-2015 the same as 1993-1995
Northern Mockingbird	2	2	2013-2015 the same as 1993-1995
Field Sparrow	6	6	2013-2015 the same as 1993-1995
Purple Finch	1	1	2013-2015 the same as 1993-1995
Yellow-breasted Chat	1	1	2013-2015 the same as 1993-1995
Yellow-bellied Sapsucker	3	0	2013-2015 less than 1993-1995
Red-headed Woodpecker	5	3	2013-2015 less than 1993-1995
Eastern Kingbird	91	81	2013-2015 less than 1993-1995
Eastern Phoebe	13	9	2013-2015 less than 1993-1995
Least Flycatcher	50	35	2013-2015 less than 1993-1995
Purple Martin	3	1	2013-2015 less than 1993-1995
Red-breasted Nuthatch	9	4	2013-2015 less than 1993-1995
Brown Creeper	7	3	2013-2015 less than 1993-1995
Winter Wren	3	1	2013-2015 less than 1993-1995
Hermit Thrush	16	14	2013-2015 less than 1993-1995
Gray-cheeked Thrush	2	0	2013-2015 less than 1993-1995
Thrush-species	5	1	2013-2015 less than 1993-1995
Veery	9	6	2013-2015 less than 1993-1995
Eastern Bluebird	3	2	2013-2015 less than 1993-1995
Blue-gray Gnatcatcher	68	33	2013-2015 less than 1993-1995
Golden-crowned Kinglet	5	1	2013-2015 less than 1993-1995
Ruby-crowned Kinglet	160	111	2013-2015 less than 1993-1995
Blue-headed Vireo	5	1	2013-2015 less than 1993-1995
Black and White Warbler	42	41	2013-2015 less than 1993-1995
Golden-winged Warbler	1	0	2013-2015 less than 1993-1995
Cape May Warbler	72	18	2013-2015 less than 1993-1995
Yellow-rumped Warbler	797	782	2013-2015 less than 1993-1995
Black-throated Blue Warbler	91	60	2013-2015 less than 1993-1995
Chestnut-sided Warbler	83	81	2013-2015 less than 1993-1995
Bay-breasted Warbler	65	34	2013-2015 less than 1993-1995
Ovenbird	16	7	2013-2015 less than 1993-1995
American Redstart	168	154	2013-2015 less than 1993-1995
Bobolink	2	0	2013-2015 less than 1993-1995

Eastern Meadowlark	1	0	2013-2015 less than 1993-1995
Brown-headed Cowbird	273	200	2013-2015 less than 1993-1995
House Finch	466	15	2013-2015 less than 1993-1995
Eastern Towhee	6	4	2013-2015 less than 1993-1995
Vesper Sparrow	2	0	2013-2015 less than 1993-1995
Dark-eyed Junco	22	8	2013-2015 less than 1993-1995
Lincoln's Sparrow	5	3	2013-2015 less than 1993-1995
Swamp Sparrow	26	4	2013-2015 less than 1993-1995
Orchard Oriole	2	1	2013-2015 less than 1993-1995
Prothonotary Warbler	1	0	2013-2015 less than 1993-1995
Hooded Warbler	1	0	2013-2015 less than 1993-1995
Wren-species	2	0	2013-2015 less than 1993-1995
Yellow-bellied Flycatcher	7	5	2013-2015 less than 1993-1995
Olive-sided Flycatcher	1	0	2013-2015 less than 1993-1995

Table 4a -2015 Three-year totals for 2013-2015 vs three-year totals for 1993-1995 (Omit species not observed in either three-year period.)

We are beginning to see evidence of changes from the 1993-1997 study emerge. It will be of interest to see which of these persist into the next two years.

In Port Weller West Pier Migration Study 2013, I wrote, "It would be of considerable interest to repeat the study in 2014 to see which of the changes detected in 2013 persist, in particular, whether or not the total numbers of House Finches remain well below the total numbers observed in the 1993-1997 Study."



Cape May Warbler on Port Weller West Pier 2015 - Marcie Jacklin

No House Finches were observed in 2015. A total of only 15 birds was observed on the West Pier in the period from 2013-2015 compared with as many as 18 birds on a single day in the years 1993 to 1997 and a maximum total in May 1996 of 237 birds. Possible origins of this decline are: reduced numbers of House Finches in Niagara in 2014 compared with those in the 1993-1997 period (Leckie 2007) and/or a change in House Finch spring movement patterns. (It is known that some House

Finches in the north-eastern part of the U.S. and on the Great Lakes move south for the winter months: <http://www.allaboutbirds.org>.) The birds were certainly not breeding on the West Pier in any numbers between 1993 and 1997. They seemed to be in migration, along with Blue Jays and Common Grackles, and they were observed drifting north and/or south along the West Pier on many days during the 1993-1997 Study. On May 25, 2014, a pair of House Finches was observed on the pier.

We can explore the changes in more detail for a specific group, the warblers. The data on warblers are presented in Table 7a-2015 and shown below.

Species	1993 Total	1994 Total	1995 Total	1996 Total	1997 Total	2013 Total	2014 Total	2015 Total	1993- 1995 total	2013- 2015 total
Worm-eating Warbler	0	0	0	0	0	0	0	0	0	0
Louisiana Waterthrush	0	0	0	0	0	0	0	0	0	0
Golden-winged Warbler	1	0	0	0	0	0	0	0	1	0
Prothonotary Warbler	1	0	0	0	0	0	0	0	1	0
Hooded Warbler	0	1	0	0	0	0	0	0	1	0
Yellow-breasted Chat	0	0	1	0	0	0	1	0	1	1
Cape May Warbler	32	31	9	15	3	2	7	9	72	18
Bay-breasted Warbler	42	13	10	4	4	3	14	17	65	34
Black-throated Blue Warbler	18	26	47	53	25	11	22	27	91	60
Black and White Warbler	9	3	30	57	21	10	17	14	42	41
Nashville Warbler	3	6	15	27	21	6	46	5	24	57
Blackburnian Warbler	6	1	11	20	13	3	13	20	18	36
Ovenbird	4	5	7	33	8	4	1	2	16	7
Northern Waterthrush	2	5	2	20	14	7	12	6	9	25
American Redstart	72	37	59	36	14	40	49	65	168	154
Pine Warbler	0	0	0	6	0	1	2	1	0	4
Chestnut-sided Warbler	38	12	33	31	5	24	29	28	83	81
Blue-winged Warbler	0	0	1	2	0	1	0	1	1	2
Magnolia Warbler	62	29	33	45	25	40	77	92	124	209
Black-throated Green Warbler	8	9	13	37	2	13	8	10	30	31
Prairie Warbler	0	0	0	0	4	1	0	0	0	1
Palm Warbler	43	44	24	82	89	60	98	84	111	242
Wilson's Warbler	13	3	7	16	1	12	17	11	23	40
Northern Parula	1	11	3	10	5	6	16	20	15	42
Tennessee Warbler	3	2	2	2	1	9	6	5	7	20
Orange-crowned Warbler	0	0	2	0	1	3	0	0	2	3
Mourning Warbler	2	0	0	0	0	3	1	2	2	6
Cerulean Warbler	0	0	0	0	0	2	0	0	0	2
Blackpoll Warbler	22	9	7	6	0	64	17	100	38	181
Canada Warbler	5	1	3	3	0	6	1	7	9	14
Totals(Exclude YERU, YEWA and COYE)	387	248	319	505	256	331	454	526	954	1311
Total Number of Species	21	19	21	20	18	24	21	21	61	66
Yellow-rumped Warbler	295	276	226	1401	435	139	271	372	797	782

Yellow Warbler	268	208	208	266	239	373	761	950	684	2084
Common Yellowthroat	40	24	33	39	21	47	59	60	97	166

Table 7a -2015 Three-year warbler totals for 2013 - 2015 vs 1993-1995

Consider the final two columns in the Table. There are four warbler species for which the three-year totals in 2013-2015 lie well below the totals in the 1993-1995 period. They are Cape May, Bay-breasted and Black-throated Blue Warblers and Ovenbird.

There are a number of species of warbler whose 2013-2015 totals greatly exceed the 1993-1995 totals. Notable are Magnolia, Palm, Blackpoll and Yellow Warblers and Common Yellowthroat. The first three are migrants while the two latter are common summer residents in Niagara. It will be very interesting to see if these trends continue over the next two years.

5-Conclusions

We observed a large increase from 1993-1997 in the numbers of individuals of many of the species resident on the West Pier in 2013, 2014 and 2015.

The really interesting table in this report is Table 4a-2015 Here we compare the total number of individuals observed from 2013-2015 with total observed individuals for 1993-1995. While there are some exciting differences showing up we really need to see the numbers for the full five years of the study to search for significant changes. It would, therefore, be of considerable value to repeat the study in 2016 and 2017.

6-Acknowledgements

The author would like to thank the following individuals; David Brown for setting up the material on the Brock University web site. Marcie Jacklin for contributing photographs to the report, Kayo Roy for preparing a discussion of Double-crested Cormorants on the Pier over the years, John Stevens for reading and commenting on an early draft of the report, the Canadian Coast Guard (in particular Captains Dave McGinnis and Paul Spingle) and the St. Lawrence Seaway Authority (in particular Karen Morgenweg) for assisting with this study on the piers.



Clint Thompson raising the Coast Guard Jack beside the Maple Leaf of Canada 2015 - John Black



Coast Guard Jack (Dolphins face east and west and are good luck for mariners) 2015 - John Black

7-References

- Black, J.E. (1997). A 5 year study of bird migration at the Port Weller Piers located at the north end of the Welland Canal in St. Catharines, Ontario, Canada, May 1997. *Brock Physics Report*, PR1997-2.
- Black, J.E. (1996). A Study of Bird Migration at the Port Weller Piers Located at the North End of the Welland Canal in St. Catharines, Ontario, Canada, May 1996.

- Black, J.E. (1995). A study of bird migration at the Port Weller Piers located at the north end of the Welland Canal in St. Catharines, Ontario, Canada, May 1995. *Brock Physics Report*, PR1995-3.
- Black, J.E. (1994). A Study of Bird Migration at the Port Weller Piers located at the north end of the Welland Canal in St. Catharines, Ontario, Canada, May 1994.
- Black, J.E. (1993). A Study of Bird Migration at the Port Weller Piers and adjacent sites located at the north end of the Welland Canal in St. Catharines, Ontario, Canada, May 1993.
- Black, J.E. and Roy, K.J. (2010) *Niagara Birds*: a compendium of articles and species accounts of the birds of the Niagara Region in Ontario.