



2011 Annual Report

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2011 Executive Summary

The Lesser Slave Lake Bird Observatory (LSLBO) began avian monitoring projects in the Lesser Slave Lake Provincial Park in 1994. 2011 marks the 18th year that the LSLBO has conducted three core monitoring projects: spring migration monitoring, fall migration monitoring, and Monitoring Avian Productivity and Survivorship (MAPS). In addition to the three core projects, several research and monitoring projects were continued this year. Northern saw-whet owl fall migration monitoring began in 2004 and continued for its 8th year. The Canada Warbler Project also was initiated in 2004, but circumstances over the summer did not allow any work to be done this year. Three projects were initiated in 2010 under a joint research partnership with the University of Alberta and Alberta Parks continued in 2011. These projects are: determining the effects of local vegetation change on species abundance and diversity being monitored, determining the timing of fall migration through stable isotope analysis, and determining dispersal distances of ovenbirds in areas with differing disturbance histories.

During the spring and fall, daily migration monitoring is conducted at the LSLBO using a combination of four count techniques: daily census, visual migration counts, incidental observations, and mistnetting. These standardized monitoring techniques are used to tally the daily total of migrants observed, which are necessary to derive population trends. In 2011, spring migration monitoring began on April 22 and ended on May 15, for 24 days of coverage. This was short of the potential 50 days of coverage due to an evacuation brought on by wildfires. Conditions allowed for mistnets to be set 83.5% of the total time before the evacuation. A total of 360 birds were banded representing 27 species. Fall migration monitoring operated from July 12 to September 30 for 81 days of coverage. Conditions allowed for mistnets to be set 79.5% of the total time. 1166 birds from 52 species were banded in the fall.

The LSLBO currently operates four MAPS stations to monitor breeding populations during the breeding season. Each station was visited six times between June 11 and August 2. Banding efforts from the four stations combined for a total of 141 birds banded from 22 species. The breeding status was determined for 62 species encountered during visits to MAPS stations.

The LSLBO recorded a total of 221 recapture records during banding activities. All recaptures encountered during migration monitoring and MAPS were originally banded at the LSLBO. The majority of the birds were banded in 2011 and recaptured later in the season. 33 birds were banded in 2010 and 31 birds were banded previous to the 2010 season. The LSLBO encountered one foreign recapture during fall owl banding. A northern saw-whet owl banded on September 14 was originally banded on October 16, 2010 near Duluth, Minnesota.

A total of 149 species were detected during migration monitoring activities. There were no unusual species detected during the 2011 field season, leaving the all-time sightings list at 250 species. On May 8th the LSLBO banded its first hoary redpoll. This record represents the 102 species to be banded at the observatory.

The Canada Warbler Project was projected to continue with point count data collection in 2011, but was put on hold on the account of wildfires. When operations were permitted to resume in the Lesser Slave Lake Provincial Park, it was already well into the breeding season and resources were put into completing other projects that were delayed because of evacuation.

Northern Saw-whet owl monitoring began on August 24 and ended on October 20. Banding was attempted on 42 nights during that period and 74 northern saw-whet owls were banded, with one foreign recapture. A barred owl was also captured and banded on October 18.

Two aerial nets were used during spring and fall migration in 2011 to sample birds moving through higher levels of the vegetation layer. Sampling the bird activity in the higher vegetation will help determine if the LSLBO is experiencing changes in capture rates and species diversity due to vegetation change. The two aerial nets combined for 33% of all birds captured in the spring and 35% of the birds captured in the fall. Vegetation surveys of the 12 standard netlanes were conducted to obtain the state of vegetation in 2011. This data will be used to estimate the rate of vegetation change at the LSLBO and determine if it is correlated to changes in mistnetting captures.

During fall migration, feather samples were collected from Myrtle warbler, Swainson's thrush, American redstart, and Tennessee warbler to determine the timing of fall migration for these species through stable isotope analysis. Feathers collected will be used to determine the origin of the birds and potentially allow the LSLBO to determine when local birds move out of the area and migrants originating from other areas begin to move through. Feathers were also collected from local breeders to obtain a baseline isotope signature for the LSLBO which can be compared to the migrants. A total of 541 feathers were collected from the four species.

Feathers were collected from ovenbirds for a comparative study on dispersal distances using isotope analysis. A total of 212 ovenbird feathers were collected through the breeding season and fall migration to obtain breeding origin data for several age classes.

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Migration Monitoring

Migration monitoring is a method of bird population monitoring which surveys migrants that pass through a fixed point. Data collected through several daily survey techniques is used to determine population trends. The Lesser Slave Lake Bird Observatory (LSLBO) has conducted spring and fall migration monitoring since 1994; 2011 marks the 18th consecutive year of operation. Consistent data collection is necessary to derive accurate long-term population trends. The LSLBO follows standardized monitoring protocols described in the 2003 Revised Lesser Slave Lake Bird Observatory Station Manual. The Canadian Migration Monitoring Network (CMMN) coordinates migration monitoring across Canada and provides resources and support for member stations, including population trend analysis. LSLBO has been a full member of the CMMN since 1999.

Monitoring is conducted for seven hours each day, beginning one-half hour before sunrise, during both spring and fall. All species encountered are recorded, though songbirds are the primary focus at the LSLBO. A half-hour census is run once each day to document bird activity through the entire study site. A five minute visual migration count is conducted once every hour which focuses on actively migrating birds. All other birds observed outside the above described counts are recorded as incidental observations. The LSLBO operates twelve standard netlanes for a maximum of 84 net hours each day for the purposes of bird banding. Two additional aerial nets were used to sample bird activity in the higher levels of vegetation. Mistnets are not set if the temperature is below 2°C, during periods of precipitation, or if the wind strength is above 3 on the Beaufort Scale.

Spring Migration

Spring migration monitoring is conducted from late April until early June at the LSLBO. This time period covers the entire spring migratory window for the majority of songbird species observed in the area. The migration station typically opens in late April, once daytime temperatures allow for banding. By this time, the early spring migrant species have already begun to move through the area. The volume and diversity of migrants varies annually depending on general weather conditions throughout April. After the first week of June there is very little observed migration as most birds have begun breeding activities. The station ends spring monitoring on June 10.

In 2011, spring migration monitoring began on April 22. Wildfires threatened the area midway through the migration season and evacuations forced the station to close on May 15. This resulted in only 24 days of coverage; half of the spring season. The LSLBO maintained good migration coverage in the short period that the station was open (Table1). The census was conducted every day the station was opened. Observers aimed to run 8 visual migration counts each day, but 6 were conducted during poor weather. Weather conditions did not permit banding only on one day and reduced mistnet coverage on 11 days. Reduced coverage primarily occurred when mistnetting was delayed by below freezing morning temperatures or when nets were closed due to wind conditions.

Table 1. Summary of effort during spring migration monitoring at LSLBO, 2003-2011.

Spring	2003	2004	2005	2006	2007	2008	2009	2010	2011
Coverage									
First Day	21-Apr	19-Apr	25-Apr	24-Apr	24-Apr	26-Apr	25-Apr	22-Apr	22-Apr
Last Day	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	15-May
Number of Days	50	50	43	47	48	45	46	50	24
Person Days	124	120	121	127	92	105	89	114	55
Banding									
First Day	21-Apr	20-Apr	25-Apr	24-Apr	24-Apr	27-Apr	29-Apr	22-Apr	22-Apr
Last Day	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	15-May
Number of Days	39	45	43	44	47	43	42	44	23
Av. Daily Net Hrs	48.9	60.5	71.2	70.3	73.6	75.8	70.4	64.4	81.8*
Census									
First Day	21-Apr	20-Apr	25-Apr	24-Apr	24-Apr	26-Apr	25-Apr	22-Apr	22-Apr
Last Day	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	15-May
Number of Days	50	49	43	47	48	45	46	50	24
Vis-Mig									
First Day	21-Apr	20-Apr	25-Apr	24-Apr	24-Apr	26-Apr	25-Apr	22-Apr	22-Apr
Last Day	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	15-May
Number of Days	50	49	43	47	48	45	46	50	24
Av Daily Vis-Migs	8	8.2	8	7.7	7.9	7.8	7.7	7.6	7.8

*includes net hours from two non-standard aerial nets.

Mistnets were set for a total of 1962.75 net hours; 1727 from the 12 standard nets and 235.75 from the two aerial nets. Mistnets were set for 83.5% of the possible 2352 net hours in the 24 operating days. The spring season had a potential of 4900 net hours if the station had remained open until the standard close date of June 10. On average, 900 birds are banded in the spring. In 2011, a total of 360 birds were banded and 5 were recaptured for a capture rate of 18.6 birds/100 net hours. The low banding total is attributed to completing only 48% of the spring banding season before the wildfire evacuation occurred. The busiest banding day was May 13 with 86 birds, followed by April 26 with 52 birds (Figure 1). Unfortunately the station closed right before the third week of May, which has shown to be a busy period for banding in previous years.

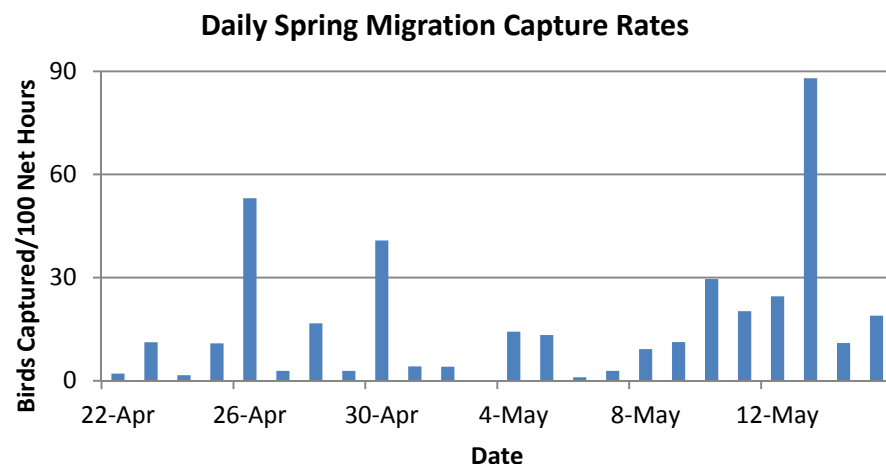


Figure 1. Daily capture rates during 2011 spring migration monitoring.

A total of 27 species were captured through mistnetting. The top five species banded were: dark-eyed junco (75), Myrtle warbler (65), chipping sparrow (42), American tree sparrow (38), and white-throated sparrow (27). These species accounted for 69% of the total bandings. On average, 45 species are banded during spring migration. The low species diversity this year was due to the early closure of the banding station as many species had not yet arrived to the area. The highlight of the spring banding was a hoary redpoll captured on May 8. It was the LSLBO's first hoary redpoll and represented the 102 species to be banded at the station. Banding totals for each species are listed in Appendix I.

Migrants are constantly moving through the area during the spring and several times throughout the season the LSLBO experiences heavy migration passage (Figure 2). These peaks can consist of large volumes of a single species or a variety of species moving together in mixed flocks. Migration was strong the opening day of spring monitoring with strong passage of American robins, Myrtle warblers, and dark-eyed juncos that occurred throughout the morning. This pattern was normal until the first peak occurred on May 3 as over 5,000 greater white-fronted geese, 1700 American robins, and 1000 dark-eyed juncos were counted along with several hundred American pipits, Myrtle warblers, and blackbirds. May 7 proved to be the largest migratory passage of the spring as 13,000 greater-white fronted geese and 3700 snow geese passed overhead, though songbird migration was minimal that day. May 13 was an extremely busy day as nearly 5000 warblers (over half being Myrtle warblers) were counted early in the morning. Later in the day the sparrows began to move through and nearly 5000 chipping sparrows were counted in a matter of hours. A large number of water fowl species were also observed in the pockets of open water forming on the lake and by the end of the day 90 species were encountered on the 13th.

The LSLBO can expect to encounter approximately 130 species during the spring. This year a total of 116 species were observed. A number of expected species were missed because of the evacuation, including alder flycatcher, vireos, gray-cheeked thrush, cedar waxwing, Tennessee warbler, American redstart, mourning warbler, common yellowthroat, Wilson's warbler, and Canada warbler. Sight records for all species observed are listed in Appendix II.

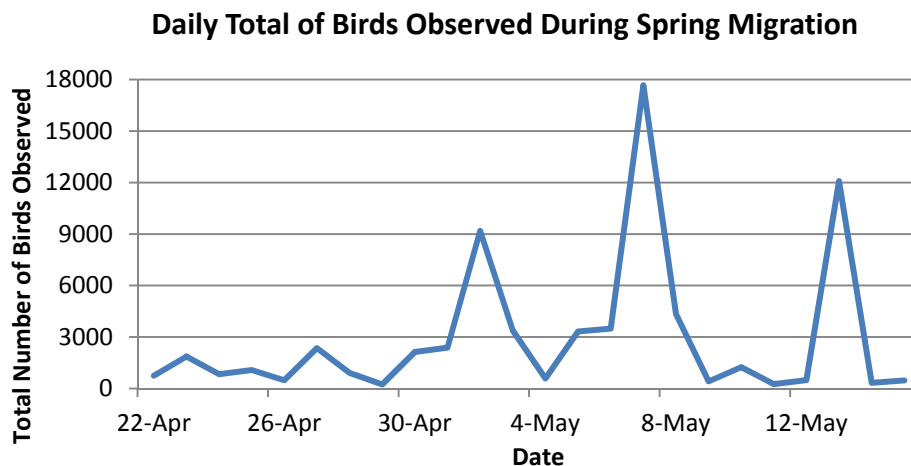


Figure 2. Total number of birds detected each day during spring migration 2011.

Spring Monthly Summary

April

Spring migration monitoring began on April 22. Overnight temperatures often fell below freezing, but daytime temperatures were consistently above 0°C. Snow cover was still moderately deep and the netlanes had to be dug out before the mistnets could be set. With warm afternoon temperatures, it didn't take long for the snow to melt away. Many of the winter resident species, such as downy woodpeckers, chickadees, redpolls, and evening grosbeaks, were active and several early spring migrant species had begun to move through the area. Passage of several hundred American robins, steady Myrtle warblers, dark-eyed juncos, individual sharp-shinned hawks, occasional northern harriers, and a lone eastern phoebe were observed. Waterfowl were absent because Lesser Slave Lake was still frozen solid, but several small flocks of Canada geese and a tundra swan were spotted flying over the lake. Banding was limited to a few hours due to cold morning temperatures and only a single American tree sparrow was banded despite all the bird activity.

Morning temperatures through the last week of April remained cool, often dipping below the freezing mark. Lesser Slave Lake remained covered with ice and waterfowl observations were limited to a small number of mallard, common goldeneye, and common merganser that flew past looking for a place to land. Canada geese and tundra swans continued to migrate past and were joined by small flocks of greater white-fronted geese and the occasional group of Sandhill cranes. Raptor migration activity began to increase with more frequent sightings of northern harriers and sharp-shinned hawks and late morning sightings of red-tailed hawks, rough-legged hawks, broad-winged hawks, and peregrine falcons. New species were sighted, including greater yellowlegs, common snipe, Franklin's gull, mew gull, and belted kingfisher.

Songbird migration was consistent, and quite busy, through the entire final week of April. American robins, Myrtle warblers, dark-eyed juncos, and blackbirds remained the prominent migrants through the week. Daily totals fluctuated, but at times it was heavy with hundreds of each species flying over. American robins peaked on April 27th with just over 1900 counted. Occasionally a yellow-shafted flicker or two would trail a large flock of robins or blackbirds. Only a few species were prevalent in active migration, but new songbird species were constantly detected throughout late April including: tree swallow, ruby-crowned kinglet, winter wren, hermit thrush, American pipit, orange-crowned warbler, savannah sparrow, song sparrow, fox sparrow, and Lapland longspur. The weather was ideal for banding, except for cold mornings which delayed mistnetting. 125 birds were banded with daily totals ranging from 1 to 52 birds. The most commonly captured species were dark-eyed juncos, American tree sparrows, and Myrtle warblers.

May

Weather conditions were very good for most of the opening week of May, with the exception of a cold rainy day mid-week. Warm temperatures began to affect the frozen lake and waterfowl quickly moved in as the ice began to break up. It wasn't long before common loon, horned grebe,

green-winged teal, blue-winged teal, northern pintail, northern shoveller, American wigeon, ring-necked duck, bufflehead, and red-breasted merganser were spotted in patches of open water. Songbird migration continued to be steady for the first few days of the week with strong passage of Myrtle warblers, American robins, and blackbirds. Good numbers of migrating tree swallow, American pipit, American tree sparrow, dark-eyed junco, and yellow-shafted flicker were also observed. By mid-week the migration of songbirds slowed down to a trickle, but ever increasing sizes and frequency of geese flocks began to move through. The goose migration peaked on the 7th with over 13,000 greater white-fronted geese and 3,700 snow geese counted. The influx of new species was not as strong as the previous week with yellow-bellied sapsucker, Say's phoebe, vesper sparrow, white-crowned sparrow arriving early in the week and Swainson's thrush, black-and-white warbler, chipping sparrow, and brown-headed cowbird observed late in the week. Though the weather was ideal for banding for most of the week, banding totals were low with 36 birds banded and daily totals ranging from 0 to 14 birds.

The second week of May began with warm and calm conditions, but migration was very quiet with only occasional migrants observed. Conditions turned extremely windy mid-week. Though there were signs of some songbird migration, the extent of the migration was difficult to detect because of the heavy wind. The winds died down briefly for one day, which became the busiest day for songbird migration of the spring. A constant rush of migrants began moving first thing in the morning on the 13th and didn't stop. Early in the day the migrants consisted mostly of warblers; a large number of Myrtle warblers, yellow warblers, and orange crowned warblers were observed. When the warblers stopped the sparrows began to move through. Most prominent were chipping sparrows, almost 5,000 were counted over a few short hours. It was a busy morning with lots of bird activity, observers recorded 90 species. Heavy winds picked up for the rest of the week and detections remained low.

The buildup of species count on the 13th began early in the second week of May with the arrival of red-necked grebe, lesser scaup, greater scaup, spotted sandpiper, terns, least flycatcher, yellow warbler, magnolia warbler, black-throated green warbler, ovenbird, northern waterthrush, Connecticut warbler, western tanager, Lincoln's sparrow, white-throated sparrow, and yellow headed blackbird. As the week progressed observers recorded the first gadwall, long-tailed duck, surf scoter, white-winged scoter, mourning dove, eastern kingbird, palm warbler, blackpoll warbler, clay-coloured sparrow, and rose-breasted grosbeak. A total of 198 birds were banded from a large diversity of species through the week, daily totals ranged from 9 to the 86 banded on the 13th. The highlight of the spring banding occurred on May 8th with the capture of a hoary redpoll, a new species banded by the LSLBO.

Late in the evening on May 15, wildfires driven by the extreme wind conditions forced a complete evacuation of the area. This put an end to spring monitoring at the half-way point of the typical season. Operations were not permitted to resume in the area until after spring migration period was finished.

Fall Migration

Fall migration monitoring begins on July 12 and runs until late September. This time period covers the migratory window for the majority of the songbird species monitored at the LSLBO. Light migration is observed in mid-July, but quickly builds intensity by the third week of the month. By late September most active songbirds are winter resident species and temperatures are often too cold to allow for banding.

The LSLBO operated every day July 12 until September 30 in 2011 for 81 days of fall migration coverage. A census was conducted every day and 6 to 8 visual migration counts were run daily depending on the weather. Poor weather conditions prevented mistnetting on 6 days and caused reduced net coverage on 31 days. The fall received excellent overall migration coverage consistent with previous years; however, net coverage was slightly lower due to poor weather (Table 2).

Table 2. Summary of effort during fall migration monitoring at LSLBO, 2003-2011.

Fall	2003	2004	2005	2006	2007	2008	2009	2010	2011
Coverage									
First Day	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul
Last Day	30-Sep	30-Sep	29-Sep	29-Sep	30-Sep	2-Oct	28-Sep	30-Sep	30-Sep
Number of Days	77	78	75	77	73	76	77	80	81
Person-days	158	164	170	149	114	131	165	158	140
Banding									
First Day	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul
Last Day	30-Sep	30-Sep	29-Sep	29-Sep	30-Sep	2-Oct	28-Sep	30-Sep	30-Sep
Number of Days	69	73	71	73	68	74	75	77	75
Av. Daily Net Hrs.	73.8	69.8	76	73.9	71.9	75.7	78.9	81.5*	77.9*
Census									
First Day	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul
Last Day	30-Sep	30-Sep	29-Sep	29-Sep	30-Sep	1-Oct	28-Sep	30-Sep	30-Sep
Number of Days	77	78	75	77	73	75	77	80	81
Vis-Migs									
First Day	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul	12-Jul
Last Day	30-Sep	30-Sep	29-Sep	29-Sep	30-Sep	2-Oct	28-Sep	30-Sep	30-Sep
Number of Days	77	78	75	77	73	76	77	80	81
Av Daily Vis-migs	7.6	7.6	7.7	7.7	7.7	7.5	7.6	7.5	7.3

*includes net hours from two non-standard aerial nets.

Fourteen mistnets were used through fall migration; 12 standard nets and two aerial nets. Combined, the 14 nets were set for 6307.47 of a possible 7938 net hours (79.5% of the possible net hours). The standard nets were set for 5531 of 6804 (81%) and the aerals were set for 776.47 of 1134 (68.5%) net hours. A total of 1296 birds were captured; 1166 birds banded and 130 recaptures for a capture rate of 20.5 birds/100 net hours. The banding total was the second lowest on LSLBO's records, well below the average of 1833 for the season. Banding was variable throughout the season (Figure 3). The peak banding day was on August 11 with 55 birds banded and only four other dates had over 40 birds banded.

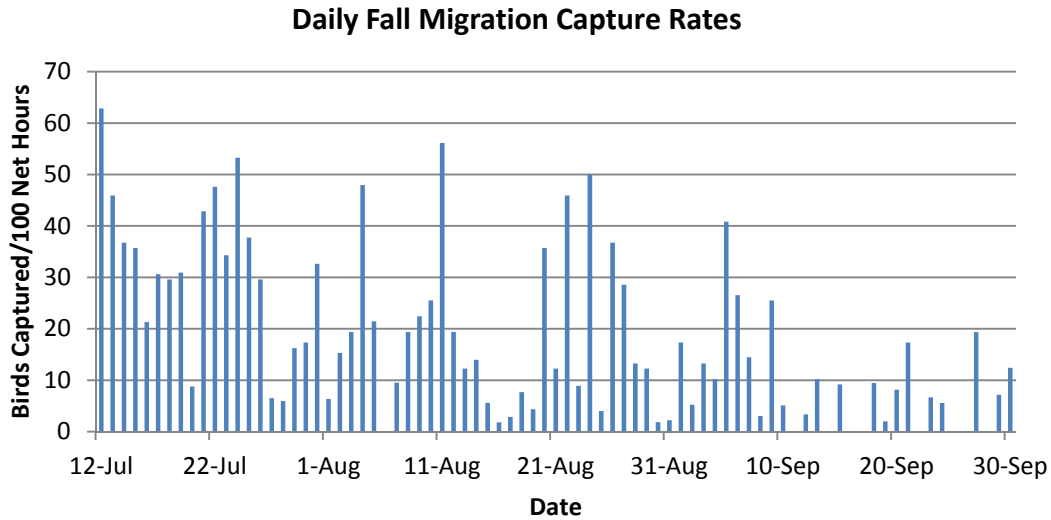


Figure 3. Daily capture rates during 2011 fall migration monitoring.

Fifty-two species and forms were represented during the fall banding, which was slightly below the fall average of 55. The top 5 species banded were: Myrtle warbler (275), Swainson's thrush (128), ovenbird (125), American redstart (85), and yellow warbler (72). These five species accounted for 58.7% of all birds banded. No unusual species were banded and no species were banded in record numbers. Complete banding totals for each species are listed in Appendix I.

Fall migration in 2011 began early, but there were few instances of heavy passage until mid-way through the season (Table 4). Migration was steady from the opening day until the first week of August as small numbers of migrants were observed. August 11 was the peak day of the fall with a large passage of warblers, over half being Myrtle warblers. Migration activity increased in the third week of August and remained steady until the first week of September. Myrtle warbler migration was steady during this period and accounted for most of the observed migrants. Overall activity declined by mid-September. A total of 113 species were observed and no new species were recorded. Sight records and peak days for all species are listed in Appendix II.

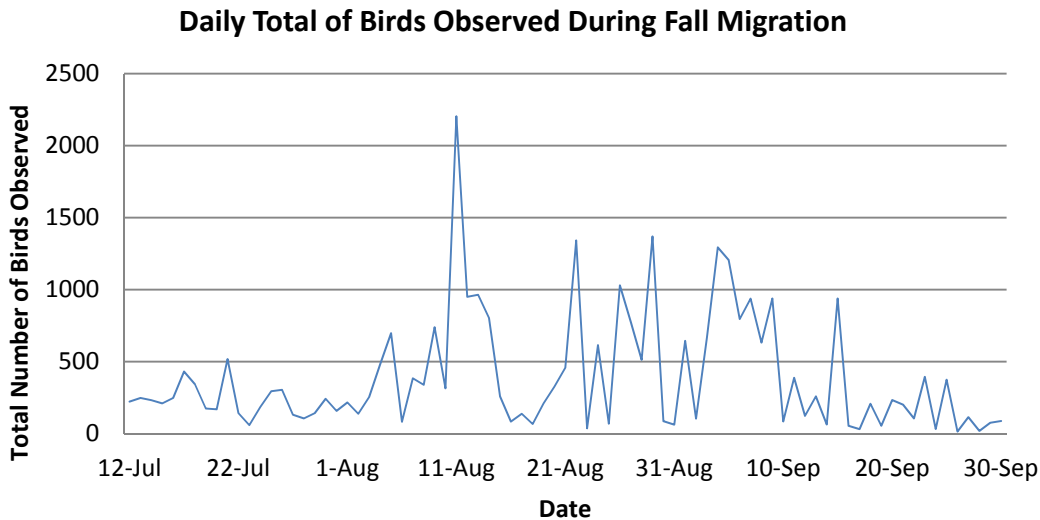


Figure 4. Total number of birds detected each day during fall migration 2011.

Fall Migration Summary

July

Fall migration monitoring began on July 12 with an overcast sky that eventually brought heavy rain. Bird activity was strong with heavy foraging by a wide diversity of species and light migration of juvenile Myrtle warblers. The weather improved for the rest of the opening week of fall and bird activity remained the same; plenty of foraging activity in the trees and light observed migration. The migrants consisted mostly of Myrtle warblers, but occasionally small numbers of other warblers were spotted along with groups of tree swallows. Banding through the week was steady, but not overly busy, with 124 birds banded and daily totals ranging from 8 to 37 birds.

Weather conditions through the third week of July were sunny and hot mixed with periods of rain and wind. Migration was light, but steady through the week with yellow warbler, Tennessee warbler, black-and-white warbler, American redstart, western tanager, and blackbirds joining the Myrtle warblers. Banding efforts produced 142 birds with daily totals ranging from 5 to 39. A variety of species were banded, most of the captures were warblers. Two notable captures included a fox sparrow in heavy juvenile plumage and a recaptured veery in late stages of breeding condition that was banded in 2009.

The last week of July was surprisingly slow for migration. Activity early in the week consisted mostly of foraging warblers. Heavy winds picked up for a few days mid-week, which reduced all bird activity. Strangely the whole area remained extremely quiet even after the winds calmed. A total of 161 birds were banded, with daily totals ranging from 3 to 44. The top species banded were Swainson's thrush, yellow warbler, ovenbird, and American redstart.

August

August opened with several days of heavy wind and ended with more heavy wind and rain. Only a few days mid-week saw ideal monitoring conditions. Migration during the few calm days consisted of the passage of many warbler species, including Myrtle warbler, Tennessee warbler, yellow warbler, and American redstart. This migration was light, mostly individuals and the occasional small group. Most of the passage occurred early in the morning and ended after a few hours. Much of the observed activities were foraging groups moving through the vegetation. A total of 102 birds were banded with daily totals ranging from 0 to 44 birds. A large portion of the species banded were Swainsons' thrush and ovenbird.

Steady warbler migration occurred through the second week of August, at times becoming quite heavy. Most migrants moved in the first few hours of the morning, slowing by mid-morning as temperatures became too warm. The majority of the migrants were Myrtle warblers, but a large diversity of species were identified. Incidents of sharp-shinned hawk bandings increased as they began to move through hunting the migrating songbirds. Migration peaked on August 11th as a large number of Myrtle warblers, over 1100, were counted along a large number of other warbler species. Many of the warblers were flying too high to be positively identified, but Tennessee warblers and yellow warblers were among them. Banding picked up through the week with 154 birds banded with daily totals ranging from 10 to 55 birds.

Weather through the second half of August was not ideal for monitoring with a number of days lost due to heavy winds. All but two days of third week of August were windy. Although monitoring was attempted, the wind was just too strong for effective detection or banding. When the wind died down late in the week, migration was only a trickle. Most of the migration consisted of small numbers of Myrtle warblers and the occasional Tennessee warbler, yellow warbler, and black-and-warbler. The weather conditions affected banding through the week with a total of 61 birds banded and daily totals ranging from 1 to 34 birds. Swainson's thrush and ovenbird continued to be the top banded species.

The fourth week of August alternated between calm and windy; one day would be calm and the next would be extremely windy. Like the previous week, the winds were just too strong for effective monitoring and few observations were made. The calm days, however, were very busy. Most of the migrants were Myrtle warblers; their numbers reached 1000 on several days. Other actively migrating warblers were Tennessee warbler, yellow warbler, black-and-white warbler, and American redstart. A good number of warblers were flying too high for positive identification. Eastern kingbirds were also noted with a couple good days of migration late in the week. August closed with persistent wind, though not as strong as earlier in the week, and another lull in migration. A total of 190 birds were banded during the week with daily totals ranging from 1 to 48 birds. Myrtle warblers were the top banded species. The highlight species of the week were both the white-breasted and red-breasted nuthatches (the bander-in-charge's favorite birds). The final week of August brought the final sightings of yellow warbler, black-throated green warbler, and Canada warbler. But as those species left, the first of the fall orange-crowned warblers began to move through.

September

The weather through the first week of September was fantastic fall weather. Almost every day was calm, sunny, and hot. The migration pattern was consistent for most of the week: heavy migration of Myrtle warblers and orange-crowned warblers early in the morning, then active migration ceasing mid-morning when temperatures became too hot, then foraging groups moving through the vegetation. Myrtle warblers were the most prominent migrant, between 500 and 1000 were counted on most days. Though overall bird activity was high, banding totals were on the low side with 114 birds banded through the week with daily totals ranging from 2 to 40 birds. The first fall flocks of greater white-fronted geese began to move through, but these flocks were small and infrequent. The first fall American tree sparrow was spotted. The last fall observations of a number of species were made over the week, including the four vireo species, Cape May warblers, mourning warblers, common yellowthroat, western tanager, and rose-breasted grosbeak.

The weather during second week of September started extremely nice, but turned windy, cool, and rainy as the week progressed. Signs of migration slowing down began to show and the numbers of warblers dropped considerably from the previous week, though occasional rushes of Myrtle warblers and orange-crowned warblers were detected early in the week. By week's end there was very little migration, but weather conditions played a role in that. Banding totals were very low through the week with 44 birds banded and daily totals ranging from 0 to 24 birds. The first white-crowned sparrows and dark-eyed juncos began to move through in consistent, but low numbers. While these species began to move through, the final yellow-bellied sapsucker, least flycatcher, Tennessee warbler, magnolia warbler, black-and-white warbler, ovenbird, and Wilson's warbler of the year were observed.

Overall bird activity slowed considerably during the second half of September. A few Myrtle warblers and orange-crowned warblers continued to move through, but the expected passage of dark-eyed juncos, American tree sparrows, and white-crowned sparrows never came. Weather conditions were typically for late September, generally cooler with windy days mixed in. Banding slowed down considerably with a total of 71 birds banded through the final two weeks of migration monitoring, with the highest daily total of 17 birds banded. Through the third week of September, alder flycatcher, eastern kingbird, Swainson's thrush, hermit thrush, palm warbler and American redstart made their final fall appearance. One of the highlight observations of the fall was a Townsend's solitaire spotted on the 27th. The banding lab closed on September 30. The weather was cool and eventually the wind picked up. Although there was hardly any migration observed, six Myrtle warblers were banded. A nice way to end the season.

Monitoring Avian Productivity and Survivorship (MAPS)

Monitoring Avian Productivity and Survivorship (MAPS) is a long-term monitoring program coordinated by the Institute for Bird Populations. The primary focus of MAPS is to monitor populations on the breeding grounds. The LSLBO has participated in the MAPS program since 1994 and it remains one of the organizations core monitoring projects. 2011 marks the 18th consecutive year that the LSLBO has contributed to the MAPS program.

The LSLBO currently operates four MAPS stations: Far-and-Away (FAWA), Fern Gully (FEGU), Roadside (ROAD), and Residence (RESI). Three stations, FAWA, FEGU, and ROAD, are located in the forest bordering the migration monitoring station, while RESI is located near the Boreal Centre for Bird Conservation. FAWA and ROAD have operated for all 18 years. FEGU operated from 1994 to 2000. It was reopened in 2003, and has since operated for 9 consecutive years. RESI was established in 2000 and completed its 11th consecutive year of operation. Each station is visited once every 10 day period throughout the breeding season and follows operating protocols described in the MAPS Manual. The LSLBO operates through 6 of the periods, the dates that each station was visited in 2011 were:

	FAWA	FEGU	ROAD	RESI
Period 5 (Jun 10 – 19)	June 12	June 13	June 14	June 11
Period 6 (Jun 20 – 29)	June 21	June 22	June 23	June 20
Period 7 (Jun 30 – Jul 9)	July 1	July 2	July 3	June 30
Period 8 (Jul 10 - Jul 19)	July 12	July 14	July 15	July 11
Period 9 (Jul 20 – 29)	July 21	July 24	July 25	July 20
Period 10 (Jul 30 – Aug 8)	July 30	July 31	August 1	August 2

MAPS Banding

Each MAPS station operates 10 mistnets and can achieve a maximum of 360 net hours during the season. FAWA and FEGU received maximum coverage. RESI received slightly reduced coverage, 354 net hours, due to flooding in some netlanes. ROAD received 340 nets hours due to poor weather conditions during one monitoring period.

A total of 207 birds were captured during the 2011 MAPS banding season; 141 banded and 66 recaptures, representing 22 species and forms. FEGU had the highest capture total of the stations with 44 birds banded and 19 recaptures from 12 species (Table 3). FAWA had the second highest capture total and the highest diversity with 38 banded and 18 recaptures from 15 species, including the MAPS stations first banding record of a warbling vireo (Table 4). ROAD had the second lowest capture total with 30 banded and 21 recaptures from 10 species (Table 5). RESI, which is typically one of the busier of the four MAPS stations, had the lowest capture total with 29 banded and 8 recaptures from 13 species (Table 6).

Table 3. Captures at the Fern Gulley (FEGU) MAPS station.

Species	2011		Previous Years' Total Captures				
	Banded	Recap	94-99	03-07	2008	2009	2010
Sharp-shinned Hawk					1		
Northern Saw-whet Owl			1				
Yellow-bellied Sapsucker	1			1	1	1	1
Three-toed Woodpecker					1		
Alder Flycatcher			6	3	2	1	
Least Flycatcher			2	6			
Blue-headed Vireo			2	1			
Red-eyed Vireo			4	4			2
Blue Jay					1		
Black-capped Chickadee			7	3			
Red-breasted Nuthatch			4				
Brown Creeper					3		
Winter Wren			3	3		1	
Swainson's Thrush	2	2	50	33	5	9	1
Hermit Thrush			1	2	1	1	
American Robin	1		4	1		1	
Cedar Waxwing				2			
Tennessee Warbler			30	52	3	25	
Orange-crowned Warbler			1				
Yellow Warbler			13	10			1
Chestnut-sided Warbler			2				
Magnolia Warbler	1	2	17	6		3	
Yellow-rumped Warbler		1	26	10	5	2	6
Black-throated Green Warbler			1		1		
Bay-breasted Warbler				1			
Black-and-white Warbler	2		12	11	1	7	1
American Redstart	6	1	237	147	23	19	22
Ovenbird	8	2	41	58	17	18	5
Northern Waterthrush			1	1			
Mourning Warbler	1		51	23	1	12	5
Common Yellowthroat				2			
Wilson's Warbler					1		
Canada Warbler	15	8	112	98	17	20	27
Western Tanager			1	3		1	2
Chipping Sparrow			2	1		1	
Song Sparrow			5				
Swamp Sparrow			2				1
Lincoln's Sparrow							1
White-throated Sparrow	6	3	102	72	16	8	14
Rose-breasted Grosbeak	1				1		
Pine Siskin			2				
Total	44	19	742	392	101	130	89

Table 4. Captures at the Far Away (FAWA) MAPS station.

Species	2011		Previous Years' Total Captures					
	Banded	Recap	94-'05	2006	2007	2008	2009	2010
Sharp-shinned Hawk							1	
Yellow-bellied Sapsucker	1	2	1	1	1	3		3
Downy Woodpecker	1		1					
Hairy Woodpecker	1					1		
Least Flycatcher	6		15		2	1		8
Winter Wren					1			
Swainson's Thrush	2		10			2	1	7
Hermit Thrush			2		1	2	1	
American Robin			11		1	1	1	3
Cedar Waxwing			1					
Philadelphia Vireo			1		1			
Warbling Vireo	1							
Red-eyed Vireo	2		7		1	1		1
Tennessee Warbler			17	1	4	5	10	
Yellow-warbler	1		5			1		2
Chestnut-sided Warbler			1					
Magnolia Warbler			1					
Yellow-rumped Warbler	4	1	35	1	3	4	2	7
Black-and-white Warbler			2	1		2	1	
American Redstart	4		64	6	3	10	4	7
Ovenbird	2	3	39	8	8	6	7	6
Connecticut Warbler			1					
Mourning Warbler	2	3	66	3	4	9	12	5
Common Yellowthroat			2					
Canada Warbler	3	2	113	4	10	12	12	10
Western Tanager			2					2
Rose-breasted Grosbeak		1	1			1		
Lincoln's Sparrow				1		3	1	
White-throated Sparrow	8	6	154	18	17	16	15	11
Slate-coloured Junco					1			
Total	38	18	561	44	58	80	68	72

Table 5. Captures at the Roadside (ROAD) MAPS station.

Species	2011		Previous Years Captures					
	Banded	Recap	94-'05	2006	2007	2008	2009	2010
Yellow-bellied Sapsucker			9			1	3	
Downy Woodpecker			1					
Hairy Woodpecker			2		1			
Pileated Woodpecker			1					
Yellow-bellied Flycatcher			1					
Alder Flycatcher			6					
Least Flycatcher			11					
Black-capped Chickadee			11				1	1
Red-breasted Nuthatch			1					
Brown Creeper			1		2		2	
Winter Wren			7		5	2	6	
Ruby-crowned Kinglet			4					
Swainson's Thrush	2	5	93	7	8	13	11	7
Hermit Thrush			2				3	1
American Robin	4	1	5	2	1		1	1
Cedar Waxwing			3					
Warbling Vireo			1					
Red-eyed Vireo			5	1	2		1	
Tennessee Warbler	1		107	5	3	9	10	
Orange-crowned Warbler			1					
Yellow Warbler			9					
Chestnut-sided Warbler			5					
Magnolia Warbler	1	3	112	2	3	1	6	1
Cape May Warbler			3					
Yellow-rumped Warbler	2		79	1	4	9	3	2
Black-throated Green Warbler			7					1
Palm Warbler			1					
Blackpoll Warbler			2					
Black-and-white Warbler	2		28		6	3	3	1
American Redstart	2		218	13	13	14	11	2
Ovenbird	7	10	119	13	9	18	20	14
Northern Waterthrush			2	1			1	
Mourning Warbler			17	1	1	2	4	1
Common Yellowthroat			2					
Canada Warbler	7	2	205	13	8	15	21	10
Western Tanager			3			1		
Rose-breasted Grosbeak			4		1			
Chipping Sparrow			16		3		1	1
Song Sparrow			2					
Lincoln's Sparrow			3			1		
Swamp Sparrow					1			
White-throated Sparrow	2		123	6	6	5	11	8
Purple Finch			1					
Pine Siskin			1					
Total	30	21	1154	67	77	94	119	51

Table 6. Captures at the Residence (RESI) MAPS station.

Species	2011		Previous Years' Total Captures					
	Banded	Recap	'00-05	2006	2007	2008	2009	2010
Sharp-shinned Hawk			1	1			1	
Ruby-throated Hummingbird			2					
Yellow-bellied Sapsucker			17		2	2	2	1
Downy Woodpecker						1		
Northern Flicker			1					
Western Wood-Pewee			1					
Alder Flycatcher			1					
Least Flycatcher			44		1	4		
Black-capped Chickadee			15	8	2			
Red-breasted Nuthatch			3			1		
Brown Creeper			2			1		1
Winter Wren			4	1		8		
Ruby-crowned Kinglet			4					
Swainson's Thrush	3	1	48	10	4	13	13	8
Hermit Thrush	2		18	6	3			
American Robin			5	1		2	2	4
Red-eyed Vireo			8		4	5		1
Philadelphia Vireo			2			1		
Warbling Vireo			2					
Blue-headed Vireo			3					1
Cedar Waxwing	1							1
Tennessee Warbler	2		151	5	12	12	10	2
Orange-crowned Warbler			1					
Yellow Warbler			15		4	3	2	
Magnolia Warbler	1		30		4	3	5	1
Cape May Warbler					1			
Yellow-rumped Warbler	2	1	121		9	6	12	7
Black-throated Green Warbler			5				3	
Bay-breasted Warbler			6					
Blackpoll Warbler			2					
Black-and-white Warbler	1		9		3	6	4	2
American Redstart	3		77	7	15	7	7	6
Ovenbird	6		49	14	13	11	18	14
Northern Waterthrush	1		1					
Mourning Warbler	2	1	10	1	2	4	9	6
Common Yellowthroat			2	1		1	1	1
Canada Warbler	2	2	27	2	12	11	2	8
Western Tanager			3					
Rose-breasted Grosbeak			7			1	1	2
Chipping Sparrow			11	1	2		6	1
Clay-colored Sparrow			1					
Lincoln's Sparrow			4	3	9	1	10	1
Swamp Sparrow							1	
White-throated Sparrow	3	3	95	7	13	18	9	17
Purple Finch			1				2	
Pine Siskin			1					
Total	29	8	813	76	115	122	120	85

Breeding Status

Breeding status was determined for the 62 species encountered at MAPS stations visits. The breeder status (B) is given to species with evidence, or strong evidence supporting breeding activity within the boundaries of the MAPS station. Likely breeders (L) were species frequently observed at a station, but lacked strong evidence of breeding activity within the stations boundaries. Transient species (T) are observed at a station, but it is unlikely that they were breeding within the stations boundaries. Observations were restricted to MAPS banding site visits only.

Table 7. Breeding Status of MAPS birds in 2011.

Species	RESI	ROAD	FEGU	FAWA	Species	RESI	ROAD	FEGU	FAWA
Osprey			T	T	Swainson's Thrush	B	B	B	L
Bald Eagle			T	T	Hermit Thrush	B			T
Northern Harrier				T	American Robin	B	B	T	T
Merlin				B	American Pipit		T		
Ruffed Grouse	T		B		Cedar Waxwing	T	T	T	T
Solitary Sandpiper	T				Tennessee Warbler	B	T	L	T
Franklin's Gull		T		T	Yellow Warbler	T	B	B	B
Ring-billed Gull				T	Magnolia Warbler	B	B	L	
Belted Kingfisher				T	Yellow-rump'd Warb.	B	B	B	B
Yellow-bellied Sapsucker	L	T	B	B	Black-thrt'd Grn Warb.	L	T	T	
Downy Woodpecker				T	Black-and-white Warb.	B	B	B	L
Hairy Woodpecker	L	T	T	T	American Redstart	B	B	B	B
Northern Flicker	T	T		T	Ovenbird	B	B	B	B
Pileated Woodpecker			T		Northern Waterthrush	T			
Western Wood Pewee		T			Mourning Warbler	B	L	B	B
Alder Flycatcher	T	T	T		Common Yellowthroat	L			
Least Flycatcher	B			B	Canada Warbler	B	B	B	B
Blue-headed Vireo	T		T		Western Tanager	T	L	L	L
Warbling Vireo	L	T	T	T	Chipping Sparrow	L	L	L	
Philadelphia Vireo	T				Lincoln's Sparrow	B			
Red-eyed Vireo	B	B	B	B	White-thrt'd Sparrow	B	B	B	B
Blue Jay	T	T	T	T	Rose-breast'd Grosbeak	L	T	T	L
American Magpie			T		Red-winged Blackbird		T		T
American Crow	T	T	T	T	Brown-headed Cowbird	T	T	T	T
Common Raven	T	T		T	Baltimore Oriole				T
Tree Swallow	T	T	T		White-winged Crossbill	T	T	T	
Barn Swallow		T			Pine Siskin	T	T	T	T
Black-capped Chickadee	B	L	L	L	Purple Finch				T
Boreal Chickadee	T				Evening Grosbeak	T	T	T	T
Red-breasted Nuthatch	T	T	T						
Brown Creeper	B	T	T	T					
Winter Wren	B	T	L	T					
Ruby-crowned Kinglet	T		T	T					
						RESI	ROAD	FEGU	FAWA
Total sp. Breeder (B)						18	11	12	12
Total sp. Likely (L)						7	4	6	5
Total sp Transient (T)						20	27	21	26
Total sp.						45	42	39	43

Recaptures

The LSLBO recorded 221 recapture records during the 2011 banding season: 5 during spring migration, 66 during MAPS, 19 during target banding for the feather isotope projects, and 130 during fall migration, and 1 during northern saw-whet owl banding. The recapture records represent 168 individuals. 104 were first banded in 2011 and recaptured later in the season. 33 birds were banded in the 2010 season and 31 birds were originally banded before 2010 and represent some of the oldest known age birds encountered during the banding season (Table 8). All birds were originally banded by the LSLBO except for the northern saw-whet owl. This owl was captured on September 14 at the LSLBO and was originally banded as a hatch-year on October 16, 2010 near Duluth, Minnesota.

Table 8. Age of recaptured birds originally banded at the LSLBO before 2010.

Species	Band Number	Original Banding			Recapture		Age
		Date	Location	Age	Date	Location	
Black-capped Chickadee	2560-01097	Sept 27, 09	Mig	HY	Apr 23	Mig	2 years
Black-and-white Warbler	2500-78663	July 18, 09	Mig	HY	July 15	Mig	2 years
Canada Warbler	2500-78781	July 24, 09	Mig	HY	June 13	FEGU	2 years
Canada Warbler	2500-78854	July 30, 09	Mig	HY	June 23	ROAD	2 years
Veery	2291-01289	June 2, 09	Mig	SY	July 22	Mig	3 years
Myrtle Warbler	2450-46077	June 30, 09	RESI	SY	June 30	RESI	3 years
Ovenbird	1741-02646	Aug 6, 08	Mig	HY	June 29	OVEN	3 years
Ovenbird	1741-02809	May 26, 09	Mig	SY	June 23	ROAD	3 years
Red-eyed Vireo	2311-97027	July 27, 09	Mig	AHY	July 24	Mig	3+ years
Magnolia Warbler	2470-89972	July 11, 09	ROAD	AHY	July 2	FEGU	3+ years
Black-and-white Warbler	2500-78836	July 28, 09	Mig	AHY	July 13	Mig	3+ years
Canada Warbler	2500-78595	July 13, 09	Mig	AHY	June 13	FEGU	3+ years
White-throated Sparrow	1721-63944	June 6, 09	RESI	AHY	Aug 2	RESI	3+ years
White-throated Sparrow	1721-63948	June 13, 09	FEGU	AHY	June 21	FAWA	3+ years
White-throated Sparrow	1721-63957	June 23, 09	ROAD	AHY	July 2	FEGU	3+ years
White-throated Sparrow	1721-63992	July 23, 09	ROAD	AHY	June 22	FEGU	3+ years
Swainson's Thrush	2291-00757	July 22, 08	Mig	AHY	July 2	FEGU	4+ years
Magnolia Warbler	2520-57114	June 10, 09	Mig	ASY	July 3	ROAD	4+ years
Myrtle Warbler	2450-46008	July 12, 08	FAWA	AHY	June 9	OVEN	4+ years
Mourning Warbler	2450-46082	July 1, 09	FAWA	ASY	June 12	FAWA	4+ years
Canada Warbler	2450-46070	June 21, 09	FAWA	ASY	June 12	FAWA	4+ years
Rose-breasted Grosbeak	8041-65737	June 30, 09	RESI	ASY	June 21	FAWA	4+ years
Swainson's Thrush	1871-65152	July 1, 07	RESI	SY	June 11	RESI	5 years
American Redstart	2470-89559	June 4, 08	Mig	ASY	June 10	OVEN	5+ years
Ovenbird	1741-02022	July 2, 08	FEGU	ASY	June 9	OVEN	5+ years
Mourning Warbler	2350-49984	July 1, 08	FAWA	ASY	June 6	FAWA	5+ years
White-throated Sparrow	1871-65180	July 11, 08	FAWA	ASY	June 21	FAWA	5+ years
Ovenbird	1691-91683	July 17, 06	Mig	AHY	June 23	ROAD	6+ years
White-throated Sparrow	1871-65136	June 12, 07	FAWA	ASY	June 21	FAWA	6+ years
White-throated Sparrow	1871-65086	June 23, 06	ROAD	ASY	July 13	Mig	7+ years
American Redstart	2330-37762	July 13, 04	Mig	SY	July 2	FEGU	8+ years

Northern Saw-whet Owl Monitoring

The LSLBO completed its eighth consecutive year of northern saw-whet owl fall monitoring in 2011. This project began in 2004 to monitor the fall migration of northern saw-whet owls through banding. Banding was attempted on 42 nights between August 24 and October 20. Mistnets were set for a total of 624 net hours. A total of 75 northern saw-whet owls were captured; 74 banded and one foreign recapture. A barred owl was banded on October 18th. The LSLBO bands an average of 106 northern saw-whet owls yearly, however the station has not had a season with over 100 banded since 2007 (Figure 5).

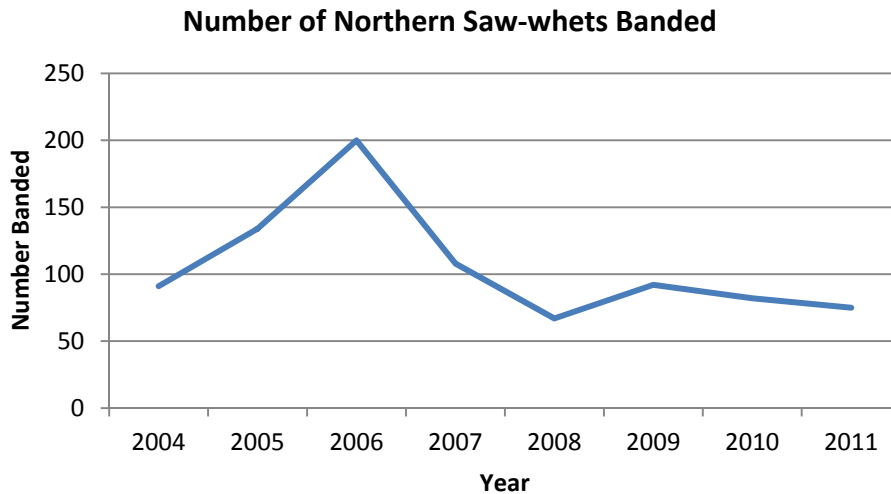


Figure 5. Total number of northern saw-whet owls captured at the LSLBO 2004-2011.

The proportion of individuals captured remains similar. A high proportion of hatch-year birds (HY) and individuals aged as females are consistently captured. These proportions have remained consistent throughout the monitoring history (Tables 9 and 10).

Table 9. Number of northern saw-whet owls banded by age class.

Year	HY	AHY	SY	ASY	Total
2011	45 (60%)	1 (1%)	19 (25%)	10 (14%)	75
Total (2004-2011)	601 (71%)	8 (1%)	165 (19%)	75 (9%)	849

Table 10. Number of northern saw-whet owls banded by sex class.

Year	Male	Female	Unknown	Total
2011	4 (5%)	51 (68%)	20 (27%)	75
Total (2004-2011)	33 (4%)	616 (73%)	200 (24%)	849

Aerial Nets

In the fall of 2010 two aerial nets were set to sample bird activity in the higher vegetation layers during migration. These nets were erected to help determine if vegetation change is affecting capture rates and species diversity in the standard netlanes. They were placed adjacent to two existing nets (nets 11 and 12) and designated nets 11X and 12X. Net 11X is placed along the shoreline and 12X is placed along the forest edge. The aerial nets were used in both spring and fall migration monitoring in 2011.

In the spring the aerial nets accounted for 33% of all birds captured. Net 11X had a capture rate of 68.8 birds/100 net hours, with 78 birds captured representing 15 species. Net 12X had a much lower capture rate of 33.5 birds/100 net hours, with 41 birds captured from 9 species. This was the first spring that aerial nets were used. Unfortunately the evacuation prevented the opportunity to sample the entire spring season.

The two aerial nets captured 35% of the birds in the fall. Net 11X had a capture rate of 97.9 birds/100 net hours, with 341 birds from 33 species. Net 12X had a capture rate of 26.6 birds/100 net hours, with 114 birds captured from 22 species. The capture rates for both nets were comparable to the 2010 season.

Both aerial nets performed very well compared to the 12 standard nets (Figure 6). Net 11X had the highest capture rate of all nets in both the spring and the fall. Though the capture rate of net 12X was not as high as 11X, it was much higher than the ground level net adjacent to it (net 12). A more extensive analysis will be conducted over the winter of 2011 where capture rates over time will be compared with vegetation change for each net. The aerial nets will provide insight whether vegetation height is a factor.

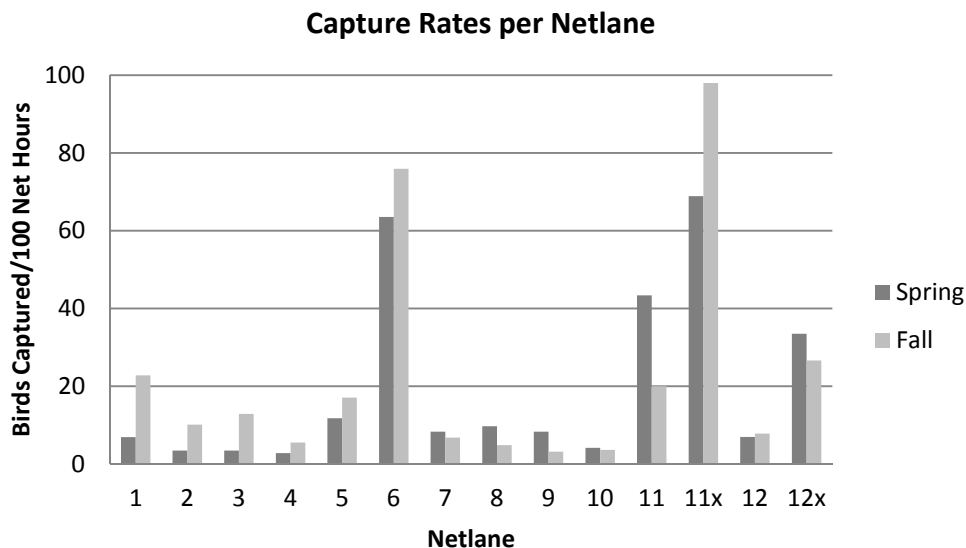


Figure 6. Capture rate per netlane during 2011 spring and fall migration.

Determining Effects of Vegetation Change on Monitoring

Natural vegetation change within the migration monitoring site may be affecting the capture rates and species diversity represented through banding. Changes in vegetation composition, structure, and height can potentially change the way birds move through the forested areas which may alter the abundances of species captured. Declines in overall capture rates at the LSLBO have been noted, but the significance and causes of the declines have never been investigated. The LSLBO wants to determine the impact vegetation change has on migration monitoring, particularly the mistnetting.

The vegetation at the LSLBO has never been properly documented since the station began operating in 1994. In 2011, extensive vegetation surveys of the 12 netlane locations were conducted following the BBird vegetation survey protocol. In addition, existing vegetation data was gathered from previous years. This data will be used to estimate the rate of vegetation change at the station and tested to determine correlations between abundances and species diversity at each net. Banding data collected from the two aerial nets will be used for this analysis. The results will aid the LSLBO in developing a habitat management protocol for future years.

Determining Timing of Fall Migration

In 2010 the LSLBO collected feathers of fall migrants from four species to determine the timing of fall migration. Stable isotopes from the collected feathers would ideally show when local birds move out of the area and migrants begin passing through. Feather samples were collected over the course of the fall season from Swainson's thrush, Tennessee warbler, Myrtle warbler, and American redstart. This project will help the LSLBO understand the migration patterns observed in the area and improve population trend data based on the timing patterns. This is a joint research project with the University of Alberta and Alberta Parks.

This project continued in 2011 with minor changes. A small number of feathers were collected from spring migrants for connectivity between the spring and the fall migration periods. However, this portion of the project was not completed due to the wildfire evacuation. Effort was put in place to capture previously banded birds, or known returning individuals, during the breeding season to obtain the isotope signature for the immediate area. This information will positively identify local individual during the migration season. A total of 541 feathers were collected from the four species (Table 11).

Table 11. Number of feathers collected for each species during the fall of 2011.

Species	Spring	Summer	Fall	Total Samples Collected
Swainson's thrush	6	28	113	147
Tennessee Warbler	3	5	45	53
Myrtle Warbler	62	32	155	249
American Redstart		29	63	92

Ovenbird Project

The Ovenbird Project is a comparative study conducted by a Ph.D. student Samuel Hache from the University of Alberta, with the LSLBO providing field support. The objective of this project is to compare juvenile dispersal distances of ovenbirds in the boreal forest in Alberta with the Acadian forests of north-eastern Canada. It is hypothesized that ovenbirds in Alberta will have greater dispersal distances than those in north-eastern Canada because of landscape disturbance characteristics.

Feathers collection began in 2010 from individuals throughout the Lesser Slave Lake Provincial Park during the breeding season. Stable isotopes from the feathers will be analyzed to determine their origin, which will allow for dispersal distances to be estimated. The feather collection continued in 2011, but with emphasis on collecting feathers from known returning individuals, birds banded during the breeding season last year, to obtain the baseline isotope signature for the station. Feather samples were also collected from fall migrants. Feather samples were collected from 98 individuals during the breeding season and 114 individuals during fall migration. All analysis will be conducted by the University of Alberta.

Staff and Volunteers

The LSLBO operated with two banders during the 2011 season. The bander-in-charge has been working at the LSLBO since 2004 and the assistant bander has been banding since 2008. The banding staff is responsible for running all monitoring activities at the station. They combined for 172 field days during summer. Joining them was Javan Green from the University of Alberta. His responsibility was to assist with banding to collect feathers for isotope analysis for the joint research projects. Staff from the BCBC also assisted at the banding lab on a few occasions.

Volunteer support was extremely limited in the 2011 field season. The LSLBO had acquired a long term volunteer interested in the entire summer. However, once the wildfires hit she decided not to return because of the uncertainty of our operating capabilities. Because of her early interest in volunteering at the station, the LSLBO did not actively pursue additional volunteer support.

Table 12. Number of staff and volunteer days spent on monitoring projects in 2011.

LSLBO Staff	Spring	MAPS	Fall	Total
Richard Krikun	20	13	50	83
Nicole Linfoot	20	15	54	89
Javan Green	8	2	32	42
Annie Hervieux	1		2	3
Kaley Donaldson			2	2
Total Staff Days	49	30	140	219
Volunteers				
Jessi Lynn Bell	6			6
Jordan McArthur			1	1
Total Volunteer Days	6		1	7

Visitors and Education

Education is an important component of the LSLBO's mandate. Education programs provided by the Boreal Centre for Bird Conservation (BCBC) highlight the migration monitoring at the banding station for regional elementary and secondary students. This education and research facility is a joint operation between the LSLBO and AB Parks. Each spring and summer, hundreds of visitors and school groups are able to see banding in action and learn more about migration and the conservation work of the LSLBO.

Visitation in 2011 was greatly reduced for several reasons. The wildfire evacuation occurred during the period when school groups typically participate in programs. It also forced the cancellation of the 17th Annual Songbird Festival. The BCBC only had one educator the remainder of the summer which limited public programming opportunities. Overall visitation to the park and BCBC was down after the fires by 50%. Though visitation was down, the LSLBO did host a number of tours throughout the season. In the spring a junior high class visited from Ardrossen and a Slave Lake Biology 30 class visited the lab. In the fall the tours included a seniors group from Westlock, a natural resources class from Portage College, and several drop in tours. In total the banding lab received 305 visitors (Table 13), well below half the number of visitors seen in previous years.

Table 13. Number of visitors to the banding station in 2011.

Season	Adults	Children	Total
Spring Migration	34	55	89
Fall Migration	169	47	216
Total	203	102	305

Recommendations

The 2011 season was successful despite a few setbacks from wildfires and the organization should be commended. The following recommendations will help improve operations at the LSLBO.

Migration Monitoring

- The CMMN requested the operating protocols be reviewed and updated, if needed. Clarification needs to be put on operating non-standard nets (the aerial nets) and vegetation monitoring and management. Other items may also need to be addressed in the protocol review to be completed during winter 2011/12.
- Vegetation change and its effects on capture rates will be thoroughly investigated in the winter of 2011/12. The results should be used to create a vegetation management plan to be implemented in the spring of 2012.

Aerial Nets

- The use of the aerial nets should be re-evaluated after the vegetation questions are answered. If habitat maintenance occurs, these nets may not be necessary.
- At least two personnel should be present when operating these nets.

Northern Saw-whet Owls Monitoring

- Saw-whet owl banding is a side project and should not interfere with the migration monitoring during the overlap period in September.
- It may be interesting to target boreal owls along with saw-whets. A second net array can be placed nearby calling for boreal owls.

Canada Warbler Project

- This project was put on hold due to the wildfires in 2011.
- The LSLBO needs to create a strong research plan that sets out specific goals and timelines.
- Investigate possible partnerships with Alberta Parks and the University of Alberta.

University of Alberta and Alberta Parks Joint Research Projects

- Results from this season will determine future collaborative projects.
- If future projects do occur, ensure that the personnel provided by the U of A can collect the desired data with minimal assistance from the LSLBO staff.
- Maintain communication to ensure that we can assist in analysis where necessary and to coordinate future projects if desired.

Visitors, education, volunteers

- Scheduled banding lab tours should always have an educator/interpreter present; the banding staff cannot handle large groups while running monitoring programs.
- Attempt to develop local volunteer support.
- Long-term volunteer support is always preferable.
- Ensure that volunteer skill level is appropriate for the time of year and projects being run.

Acknowledgements

Despite setbacks in the spring, the 2011 field season was successful because of the contributions from the LSLBO, the BCBC, the Lesser Slave Lake Provincial Park, the University of Alberta, and other organizations and agencies.

We would like to thank the following people:

- The LSLBO Board of Directors: Bob Deacon, Terry Kristoff, Nelson Lutz, Ronda Groom, Tyler Flockhart, Cherie Friesen, and Neal Knoot.
- Patti Campsall, the Executive Director, for daily operational support.
- The BCBC staff, Cori Klassen, Annie Hervieux, Kaley Donaldson, and Jason Picard.
- Dr. Erin Bayne, Samuel Hache, and Javan Green from the University of Alberta.
- Jessi Lynn Bell and Jordan McAurther for volunteer support.
- Aaron Lehman and Wayne Bowles for their continued interest and visits to the lab, and the various snacks they bring with them.

Further information about migration monitoring and MAPS can be found at:

Canadian Migration Monitoring Network - www.bsc.org/cmmn.html

Nature Counts – www.naturecounts.ca

Institute for Bird Populations - www.birdpop.org

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Community Development Trust
Community Spirit Program.

Science Horizons Youth
Internship Program

Stephen Partington

Appendix I: Annual Banding Totals

Species	2011 Spring Migration	2011 MAPS	2011 Fall Migration	2011 Projects	2011 Total		Grand Total 1993-2011
"Audubon's" Warbler							2
Alder Flycatcher			23		23		1682
American Goldfinch							1
American Kestrel							1
American Magpie							1
American Pipit							18
American Redstart		15	85	16	116		6527
American Robin	6	5	12		23		330
American Tree Sparrow	38				38		446
Baltimore Oriole							5
Bay-breasted Warbler			3		3		105
Barred Owl				1	1		3
Black-and-White Warbler	14	5	68		87		1488
Blackburnian Warbler							2
Black-capped Chickadee	2		25		27		789
Blackpoll Warbler	1		1		2		295
Black-throated Green Warbler			5		5		116
Blue Jay			5		5		53
Blue-headed Vireo							74
Boreal Chickadee							25
Brown Creeper			1				38
Brown -headed Cowbird							5
Canada Warbler		27	41		68		2545
Cape May Warbler			7				128
Cedar Waxwing		1	21		22		130
Chestnut-sided Warbler							21
Chipping Sparrow	42		1		43		1847
Clay-colored Sparrow							815
Common Grackle							4
Common Yellowthroat			4				589
Connecticut Warbler							24
Cooper's Hawk							2
Downy Woodpecker		1	3		4		57
Eastern Kingbird							1
Eastern Phoebe							129
Evening Grosbeak							1
Fox Sparrow	7		1		8		70
Golden-crowned Kinglet			1		1		72
Gray Catbird							5
Gray Jay							3
Gray-cheeked Thrush							119

Species	2011 Spring Migration	2011 MAPS	2011 Fall Migration	2011 Projects	2011 Total		Grand Total 1993-2011
Hairy Woodpecker		1	1		2		22
Harris's Sparrow							6
Hermit Thrush	10	2	10		22		432
Hoary Redpoll			1		1		1
House Wren							24
Lapland Longspur							5
Lazuli Bunting							1
Le Conte's Sparrow							6
Least Flycatcher	7	6	17		30		1927
Lincoln's Sparrow	4		13		17		756
Long-eared Owl							1
MacGillivray's Warbler							2
Magnolia Warbler		3	4		7		881
Marsh Wren							3
Mourning Warbler		5	13		18		948
Nashville Warbler							3
Northern Flicker	3		1		4		24
Northern Goshawk							1
Northern Mockingbird							1
Northern Pygmy-Owl							2
Northern Saw-whet Owl				74	74		855
Northern Shrike							1
Northern Waterthrush	2	1	17		20		645
Orange-crowned Warbler	10		15		25		1057
Olive-sided Flycatcher							2
Ovenbird	3	23	125	68	219		2729
Western Palm Warbler	3		1		4		215
Philadelphia Vireo			3		3		164
Pileated Woodpecker							2
Pine Siskin			3		3		164
Purple Finch			3		3		67
Red-breasted Nuthatch			3		3		117
Red-eyed Vireo		2	15		17		629
Red-winged Blackbird							5
Rose-breasted Grosbeak		1	7		8		280
Ruby-crowned Kinglet	6		7		13		338
Savannah Sparrow	7		3		10		156
Sharp-shinned Hawk	1		29		30		409
Slate-colored Junco	75		10		85		1193
Song Sparrow	3		6		9		250
Swainson's Thrush	6	9	128	20	163		4125
Swamp Sparrow							165
Tennessee Warbler		3	51	2	56		4564
Three-toed Woodpecker							1
Townsend's Solitaire							1
Varied Thrush							6

Species	2011 Spring Migration	2011 MAPS	2011 Fall Migration	2011 Projects	2011 Total		Grand Total 1993-2011
Veery							7
Vesper Sparrow							3
Warbling Vireo		1	1		2		57
Western Tanager			5		5		148
Western Wood-Pewee							22
White-breasted Nuthatch			2		2		8
Gambel's White-crowned Sparrow	3		2		5		393
White-throated Sparrow	27	19	12		58		2326
White-winged Crossbill							1
Wilson's Warbler			2		2		485
Winter Wren							42
Yellow Warbler	13	1	72		86		3157
Yellow-bellied Flycatcher							72
Yellow-bellied Sapsucker	1	2	3		6		142
Yellow-rumped Warbler	65	8	275	22	370		8508
Total number of birds banded	360	141	1166	203	1870		57125
Total number of species banded	27	22	51	7	55		102

Appendix II. Species arrival and departure dates and maxima at LSLBO in 2011.

The following list includes the seasonal first and last dates, the maximum total, and the number of days that each of the 149 species was encountered in 2011. Seasonal first and last dates, maximum totals, and the number of days encounter during 2010 have been included as a comparison in dates between the two seasons. All sightings are from the LSLBO during normal migration monitoring activities.

Common Loon:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 1	Apr 30 - 1	Jul 12 - 3	Jul 12 - 1
Last Sighting	May 15 - 3	Jun 10 - 2	Sep 27 - 1	Sep 19 - 1
Peak Day	May 13 - 8	May 25 - 61	Aug 9 - 24	Jul 13 & Aug 6 - 11
# of Days Sighted	11	38	46	45

Horned Grebe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 1	May 8 - 1	Aug 27 - 4	
Last Sighting	May 13 - 2		Sep 30 - 4	
Peak Day	May 11&13- 3		Sep 5 - 7	
# of Days Sighted	3	1	3	0

Red-necked Grebe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 11 - 3	Apr 30 - 5	Jul 13 - 1	Jul 20 - 2
Last Sighting	May 13 - 3	Jun 10 - 2	Sep 23 - 3	Sep 24 - 1
Peak Day	All dates - 3	5 dates - 5	Sep 8 - 10	Aug 22 - 5
# of Days Sighted	2	30	53	35

Western Grebe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 18 - 1	Aug 29 - 2
Last Sighting			Sep 30 - 4	Sep 27 - 1
Peak Day			Aug5&Sep24- 5	Sep 14 - 4
# of Days Sighted	0	0	26	7

American White Pelican:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 8 - 1	Jul 12 - 3	Jul 14 - 3
Last Sighting		Jun 7 - 2	Sep 20 - 1	Sep 23 - 3
Peak Day		May 23 - 10	Aug 31 - 10	Sep 16 - 28
# of Days Sighted	0	12	47	50

Double-crested Cormorant:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	May 18 - 2	Jul 13 - 1	
Last Sighting	May 11 - 1		Sep 7 - 1	
Peak Day	May 6 - 19		Jun 14 - 8	
# of Days Sighted	6	1	6	0

Great Blue Heron:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 19 - 1	Apr 28 - 1	Jun 30 - 1	Jul 21 - 1
Last Sighting	May 14 - 1	May 15 - 3	Sep 3 - 1	Aug 20 - 1
Peak Day	All dates - 1		Aug 3 - 2	
# of Days Sighted	4	2	6	2

Tundra Swan

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 22- 25		
Last Sighting	May 7 - 2	May 9 - 2		
Peak Day	Apr 24 - 177	Apr 24 - 169		
# of Days Sighted	8	10	0	0

Greater White-fronted Goose:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 116	Apr 26 - 510	Sep 5 - 70	Aug 26 - 17
Last Sighting	May 10 - 10	May 11 - 15	Sep 23 - 30	Sep 26 - 20
Peak Day	May 7 - 13325	May 3 - 10625	Sep 15 - 473	Sep 14 - 5075
# of Days Sighted	10	8	5	9

Snow Goose:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 2	May 3 - 682	Sep 25 - 45	Sep 26 - 1
Last Sighting	May 5 - 8	May 11 - 1		
Peak Day	May 7 - 3747			
# of Days Sighted	7	4	1	1

Canada Goose:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 63	Apr 22 - 2	Jul 15 - 3	Jul 21 - 2
Last Sighting	May 14 - 2	Jun 10 - 7	Sep 25 - 14	Sep 27 - 12
Peak Day	May 10 - 256	Jun 9 - 62	Sep 12 - 69	Aug 11 - 40
# of Days Sighted	23	44	19	28

Green-winged Teal:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 40	Apr 28 - 3		
Last Sighting	May 13 - 49	May 15 - 3		
Peak Day		May 2 - 12		
# of Days Sighted	8	11	0	0

Mallard:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 10	Apr 22 - 8	Jun 26 - 1	Jul 12 - 6
Last Sighting	May 15 - 6	Jun 10 - 6	Sep 28 - 2	Sep 30 - 9
Peak Day	May 2 - 30	Apr 25 - 12	Aug 19 - 10	Sep 14 & 15 - 75
# of Days Sighted	21	46	14	48

Northern Pintail:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 2	Apr 22 - 12		
Last Sighting	May 13 - 38	May 6 - 12		
Peak Day				
# of Days Sighted	3	4	0	0

Blue-winged Teal:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 7 - 1	May 1 - 3		
Last Sighting	May 14 - 2	Jun 1 - 2		
Peak Day	May 13 - 21	May 26 - 4		
# of Days Sighted	5	9	0	0

Northern Shoveler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 4	May 1 - 1		
Last Sighting	May 15 - 1	May 18 - 1		
Peak Day	May 13 - 44	May 2 - 3		
# of Days Sighted	6	3	0	0

Gadwall:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 1	Apr 24 - 1		
Last Sighting		May 8 - 1		
Peak Day				
# of Days Sighted	1	2	0	0

American Wigeon:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 80	Apr 22 - 8		Jul 12 - 8
Last Sighting	Ma 15 - 2	Jun 10 - 2		Sep 21 - 1
Peak Day		Apr 23 - 59		Jul 26 - 45
# of Days Sighted	13	44	0	4

Ring-necked Duck:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 1	May 1 - 1		Sep 20 - 1
Last Sighting	May 13 - 8			
Peak Day				
# of Days Sighted	5	1	0	1

Greater Scaup:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 8 - 7			
Last Sighting	May 13 - 10			
Peak Day				
# of Days Sighted	2	0	0	0

Lesser Scaup:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 9 - 4	May 2 - 10		
Last Sighting	May 13 - 15			
Peak Day				
# of Days Sighted	3	1	0	0

Long-tailed Duck:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 92	Apr 30 - 12		
Last Sighting		May 20 - 6		
Peak Day		May 10 - 140		
# of Days Sighted	1	18	0	0

Surf Scoter:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 3	May 6 - 1	Aug 6 - 2	Sep 19 - 75
Last Sighting	May 14 - 55	Jun 1 - 2		
Peak Day		May 16 - 390		
# of Days Sighted	3	22	1	1

White-winged Scoter:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 14 - 7	May 8 - 2	Aug 1 - 2	Sep 9 - 4
Last Sighting	May 15 - 8	Jun 8 - 5	Aug 18 - 1	Sep 26 - 2
Peak Day		May 10 - 10		
# of Days Sighted	2	11	2	2

Common Goldeneye:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 24 - 1	Apr 22 - 26	Jun 17 - 1	Jul 12 - 2
Last Sighting	May 15 - 14	Jun 10 - 3	Sep 30 - 6	Sep 28 - 10
Peak Day	May 13 - 40	May 9 - 32	Sep 27 - 19	Sep 20 - 50
# of Days Sighted	20	49	29	32

Bufflehead:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 1	May 8 - 3	Jun 13 - 1	Sep 7 - 1
Last Sighting	May 15 - 3	May 26 - 1	Sep 30 - 7	Sep 30 - 4
Peak Day	May 10 - 5	May 10 - 4	Sep 18 - 59	Sep 20 - 50
# of Days Sighted	9	6	16	16

Common Merganser:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 2	Apr 22 - 13	Jun 12 - 1	Jul 18 - 2
Last Sighting	May 15 - 2	Jun 10 - 12	Sep 30 - 1	Sep 30 - 2
Peak Day	May 2 - 21	Jun 2 - 28	Jun 18 - 7	Sep 10 - 26
# of Days Sighted	19	47	48	32

Red-breasted Merganser:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 6 - 4	Apr 24 - 2		
Last Sighting	May 15 - 2	Jun 10 - 9		
Peak Day	May 10 - 8	May 7 & 9 - 10		
# of Days Sighted	8	14	0	0

Osprey:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 9 - 1	Jul 13 - 1	Jul 14 - 2
Last Sighting		May 26 - 1	Aug 23 - 1	Sep 24 - 1
Peak Day		All Dates - 1	Aug 1 - 5	3 dates - 4
# of Days Sighted	0	8	15	29

Bald Eagle:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 22 - 4	Jul 12 - 2	Jul 12 - 1
Last Sighting	May 15 - 2	Jun 1 - 1	Sep 30 - 5	Sep 30 - 1
Peak Day	May 14 - 4	Apr 22, May 2 - 4	5 dates - 5	Aug 26 - 4
# of Days Sighted	24	49	77	78

Northern Harrier:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 5	Apr 22 - 2	Aug 7 - 1	Jul 20 - 1
Last Sighting	May 15 - 2	Jun 9 - 1	Sep 30 - 1	Sep 27 - 2
Peak Day	May 2 - 19	May 9 - 21	3 dates - 3	Sep 14 - 6
# of Days Sighted	19	33	23	34

Sharp-shinned Hawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	May 9 - 1	Jul 26 - 1	Jul 26 - 1
Last Sighting	May 15 - 1	Jun 9 - 1	Sep 30 - 3	Sep 25 - 2
Peak Day	Apr 28 - 8	May 13 - 3	Sep 3 - 19	Aug 22 - 13
# of Days Sighted	18	14	48	45

Northern Goshawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 9 - 1	May 7 - 1	Aug 29 - 1	Aug 22 - 1
Last Sighting	May 12 - 1		Sep 21 - 1	Sep 25 - 1
Peak Day			All dates - 1	All dates - 1
# of Days Sighted	2	1	7	3

Broad-winged Hawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 1	May 16 - 1		Aug 14 - 1
Last Sighting	May 12 - 1	May 18 - 1		
Peak Day				
# of Days Sighted	2	2	0	1

Red-tailed Hawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 1	Apr 27 - 2	Jul 13 - 1	Jul 14 - 1
Last Sighting	May 13 - 1	May 31 - 1	Sep 3 - 1	Sep 26 - 1
Peak Day	All dates - 1		All dates - 1	3 dates - 2
# of Days Sighted	4	5	3	13

Rough-legged Hawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 1			
Last Sighting				
Peak Day				
# of Days Sighted	1	0	0	0

American Kestrel:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	May 13 - 2		Sep 22 - 1
Last Sighting	May 13 - 1	Jun 2 - 1		Sep 25 - 1
Peak Day	All dates - 1			
# of Days Sighted	4	4	0	2

Merlin:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 22 - 1	Jul 15 - 1	Jul 15 - 1
Last Sighting	May 14 - 1	Jun 2 - 2	Sep 25 - 1	Sep 27 - 1
Peak Day	Apr 27 - 3	May 13 - 4	Aug 10&24 - 3	3 dates - 2
# of Days Sighted	22	21	38	23

Peregrine Falcon:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 1	Apr 29 - 1		Sep 8 - 1
Last Sighting	May 12 - 1	May 14 - 1		Sep 12 - 1
Peak Day	All dates - 1	3 dates - 2		Sep 9 - 2
# of Days Sighted	5	5	0	3

Ruffed Grouse:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 1	Apr 22 - 1	Jul 13 - 1	Jul 19 - 1
Last Sighting	May 14 - 2	Jun 3 - 1	Sep 28 - 1	Sep 28 - 1
Peak Day	3 dates - 2	5 dates - 3	3 dates - 2	Sep 6 & 19 - 2
# of Days Sighted	11	37	10	20

Sandhill Crane:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 24 - 8	Apr 22 - 1	Jul 26 - 2	Aug 29 - 9
Last Sighting	May 13 - 4	May 15 - 2	Sep 8 - 100	Sep 23 - 90
Peak Day	May 2 - 280	May 7 - 90		
# of Days Sighted	12	9	3	5

Semipalmated Plover:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 9 - 1	May 10 - 2		
Last Sighting				
Peak Day				
# of Days Sighted	1	1	0	0

Killdeer:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	Apr 22 - 1		Jul 15 - 1
Last Sighting	May 13 - 2	Jun 9 - 1		Aug 25 - 1
Peak Day	May 7&13 - 2	3 dates - 2		All dates - 1
# of Days Sighted	10	20	0	11

Greater Yellowlegs:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	Apr 22 - 1	Jul 13 - 1	Jul 31 - 4
Last Sighting	May 13 - 2	Jun 10 - 1	Sep 25 - 1	Sep 27 - 2
Peak Day	May 3 - 28	May 13 - 17	All dates - 1	Aug 2 - 6
# of Days Sighted	15	29	5	24

Lesser Yellowlegs:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 45	May 17 - 2		Aug 25 - 1
Last Sighting				
Peak Day				
# of Days Sighted	1	1	0	1

Spotted Sandpiper:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 6 - 4	May 9 - 7	Jul 13 - 3	Jul 12 - 1
Last Sighting	May 14 - 1	Jun 10 - 2	Sep 3 - 4	Sep 10 - 1
Peak Day	May 13 - 25	May 12 - 12	Aug 11 - 8	Aug 10 - 7
# of Days Sighted	6	31	32	47

Sanderling:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 26 - 1	
Last Sighting				
Peak Day				
# of Days Sighted	0	0	1	0

Common Snipe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	May 9 - 1		
Last Sighting	May 9 - 1			
Peak Day	All dates - 1			
# of Days Sighted	7	1	0	0

Bonaparte's Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 51	May 15 - 1		Jul 28 - 1
Last Sighting	May 15 - 1	May 24 - 8		Set 14 - 1
Peak Day				
# of Days Sighted	2	3	0	2

Franklin's Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 25	Apr 29 - 23	Jul 13 - 1	Jul 12 - 1
Last Sighting	May 15 - 74	Jun 10 - 2	Aug 28 - 15	Sep 3 - 10
Peak Day	May 13 - 404	May 7 - 175	Aug 7 - 318	Jul 26 - 1911
# of Days Sighted	15	28	19	36

Mew Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 24 - 1	Apr 30 - 2		Aug 23 - 6
Last Sighting	May 15 - 1	May 15 - 3		
Peak Day	May 13 - 40	May 6 - 11		
# of Days Sighted	9	11	0	1

Ring-billed Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 3	Apr 28 - 2	Jul 16 - 16	Jul 13 - 1
Last Sighting	May 15 - 3	Jun 5 - 4	Sep 24 - 1	Sep 26 - 1
Peak Day	May 2 - 18	May 13 - 6	Aug 15 - 151	Aug 6 - 110
# of Days Sighted	12	11	27	33

California Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 2	May 9 - 2	Jul 25 - 1	
Last Sighting	May 13 - 2	May 18 - 1		
Peak Day				
# of Days Sighted	2	2	1	0

Herring Gull:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 4 - 2	Apr 22 - 2	Jul 20 - 3	Jul 19 - 2
Last Sighting	May 15 - 4	May 23 - 3	Sep 27 - 5	Sep 26 - 2
Peak Day	May 13 - 52	May 8 - 7	Sep 17 - 7	Jul 23 & 26 - 5
# of Days Sighted	10	17	18	22

Common Tern:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 12 - 2	May 19 - 8	Jul 13 - 3	Jul 23 - 2
Last Sighting	May 14 - 1	Jun 10 - 5	Aug 28 - 3	Sep 24 - 4
Peak Day	May 12&13 - 2	May 25 - 9	3 dates - 3	Aug 6 - 14
# of Days Sighted	3	20	8	23

Forster's Tern:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 1	May 18 - 8		Jul 17 - 1
Last Sighting		Jun 5 - 2		Aug 1 - 2
Peak Day				3 dates - 2
# of Days Sighted	1	9	0	5

Black Tern:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		Jun 5 - 3	Sep 5 - 2	
Last Sighting				
Peak Day				
# of Days Sighted	0	1	1	0

Mourning Dove:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 12 - 1	May 27 - 1		
Last Sighting				
Peak Day				
# of Days Sighted	1	1	0	0

Common Nighthawk:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 24 - 1	Aug 29 - 1	
Last Sighting		Jun 7 - 1		
Peak Day				
# of Days Sighted	0	2	1	0

Ruby-throated Hummingbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 13 - 1	Jul 18 - 2
Last Sighting			Aug 21 - 1	Jul 28 - 1
Peak Day			All dates - 1	
# of Days Sighted	0	0	3	5

Belted Kingfisher:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 27 - 1	Apr 28 - 1	Jul 12 - 1	Jul 27 - 1
Last Sighting	May 13 - 1	May 17 - 1	Sep 25 - 1	Sep 22 - 1
Peak Day	May 9 - 5	May 7 & 8 - 2	All dates - 1	All dates - 1
# of Days Sighted	11	12	16	6

Yellow-bellied Sapsucker:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 1	Apr 24 - 1	Jul 13 - 2	Jul 15 - 2
Last Sighting	May 15 - 1	Jul 7 - 1	Sep 11 - 1	Sep 2 - 1
Peak Day	May 12 - 5	3 dates - 3	Jul 15 - 3	Aug 5 - 5
# of Days Sighted	14	32	7	9

Downy Woodpecker:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 9 - 1	Apr 29 - 1	Jul 19 - 1	Jul 13 - 1
Last Sighting	May 11 - 1	May 24 - 1	Sep 24 - 1	Sep 27 - 1
Peak Day		All dates - 1	Sep 21 - 2	4 dates - 2
# of Days Sighted	2	4	14	19

Hairy Woodpecker:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 2 - 1	Apr 27 - 1	Jul 17 - 2	Jul 18 - 1
Last Sighting	May 15 - 1	May 29 - 1	Sep 27 - 1	Sep 27 - 1
Peak Day	All dates - 1	All dates - 1		2 dates - 2
# of Days Sighted	3	14	19	31

Northern Flicker:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 5	Apr 22 - 5	Jul 17 - 1	Jul 13 - 1
Last Sighting	May 15 - 1	Jun 10 - 1	Sep 21 - 1	Sep 16 - 1
Peak Day	May 2 - 29	Apr 24 & 27 - 6	Sep 8 - 2	Sep 2 - 3
# of Days Sighted	21	40	12	26

Pileated Woodpecker:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 24 - 1	Jul 30 - 1	Aug 4 - 1
Last Sighting	May 6 - 2	Jun 7 - 1	Sep 27 - 1	Sep 23 - 1
Peak Day	May 2&6 - 2	May 7 - 2	Aug 11&22 - 2	All dates - 1
# of Days Sighted	8	12	18	17

Olive-sided Flycatcher:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 1	May 25 - 1		
Last Sighting				
Peak Day				
# of Day Sighted	1	1	0	0

Western Wood-pewee:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 12 - 1	Jul 17 - 1	Jul 31 - 1
Last Sighting		Jun 10 - 1	Sep 23 - 1	Aug 6 - 1
Peak Day		All dates - 1	All dates - 1	
# of Day Sighted	0	12	6	2

Alder Flycatcher:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 28 - 1	Jul 12 - 1	Jul 12 - 1
Last Sighting		Jun 10 - 4	Sep 15 - 1	Sep 14 - 1
Peak Day		Jun 7 - 6	Jun26, Aug10 - 4	Aug 1 & 16 - 5
# of Days Sighted	0	11	25	36

Least Flycatcher:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 8 - 1	May 15 - 5	Jul 13 - 1	Jul 13 - 1
Last Sighting	May 15 - 3	Jun 10 - 3	Sep 8 - 1	Sep 15 - 1
Peak Day	May 13 - 11	May 19 - 21	Aug 8 - 5	Aug 10 - 6
# of Days Sighted	6	24	36	33

Eastern Phoebe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 22 - 23	Jul 12 - 1	Jul 19 - 1
Last Sighting	May 13 - 1	May 27 - 1	Aug 20 - 1	Sep 14 - 1
Peak Day	May 3 - 4		All dates - 1	Jul 21 - 3
# of Days Sighted	17	23	3	8

Say's Phoebe:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 3 - 1	May 3 - 1	Aug 26 - 1	Aug 26 - 6
Last Sighting	May 13 - 5	May 15 - 1		Aug 29 - 1
Peak Day		May 13 - 10		
# of Days Sighted	3	3	1	2

Eastern Kingbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 11 - 5	May 18 - 2	Aug 3 - 1	Jul 25 - 2
Last Sighting		Jun 6 - 4	Sep 15 - 5	Sep 9 - 4
Peak Day		Jun 5 - 17	Aug 24 - 24	Aug 29 - 7
# of Days Sighted	1	7	13	17

Blue-headed Vireo:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 14 - 1	Jul 18 - 1	Jul 24 - 3
Last Sighting		Jul 1 - 1	Sep 4 - 1	Sep - 1
Peak Day		May 21 - 3	Aug 20 - 2	Jul 29 - 4
# of Days Sighted	0	12	6	9

Warbling Vireo:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 14 - 1	Aug 26 - 1	Jul 21 - 2
Last Sighting		Jun 7 - 1	Sep 1 - 1	Aug 11 - 1
Peak Day		All dates - 1	All dates - 1	
# of Days Sighted	0	7	4	3

Philadelphia Vireo:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 21 - 1	Jul 12 - 4	Jul 13 - 1
Last Sighting		Jun 9 - 1	Sep 8 - 1	Sep 20 - 1
Peak Day		All dates - 1		Jul 24 - 6
# of Days Sighted	0	4	6	

Red-eyed Vireo:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 21 - 1	Jul 12 - 3	Jul 12 - 1
Last Sighting		Jun 10 - 5	Sep 6 - 2	Aug 26 - 1
Peak Day		May 31 - 6	Aug 13 - 8	Aug 1 - 8
# of Days Sighted	0	16	39	39

Blue Jay:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 3	Apr 22 - 1	Jul 17 - 3	Jul 13 - 1
Last Sighting	May 15 - 1	Jun 7 - 1	Sep 30 - 1	Sep 27 - 3
Peak Day		May 17 - 3	Sep 3 - 6	Aug 18 - 8
# of Days Sighted	5	27	42	52

American Magpie:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 4	Apr 22 - 2	Aug 5 - 1	Jul 21 - 1
Last Sighting	May 15 - 1	Jun 10 - 2	Sep 30 - 1	Sep 30 - 1
Peak Day	Apr 24 - 8	3 dates - 6	Sep 24 - 4	Sep 17 - 5
# of Day Sighted	24	49	21	53

American Crow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 3	Apr 23 - 1	Jul 12 - 2	Jul 12 - 2
Last Sighting	May 15 - 10	Jun 10 - 3	Sep 23 - 3	Sep 20 - 1
Peak Day	May 6 - 18	Apr 27 - 13	Aug 16&21 - 15	Aug 6 - 20
# of Days Sighted	24	45	50	49

Common Raven:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 2	Apr 22 - 2	Jul 15 - 2	Jul 14 - 3
Last Sighting	May 15 - 1	Jun 10 - 1	Sep 30 - 4	Sep 30 - 2
Peak Day	May 3 - 10	May 24 - 6	Sep 22 - 88	Sep 6 - 10
# of Days Sighted	23	38	67	67

Tree Swallow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 27 - 4	May 2 - 2	Jul 13 - 65	Jul 12 - 1
Last Sighting	May 14 - 4	Jun 10 - 2	Aug 20 - 9	Aug 21 - 2
Peak Day	May 1 - 78	May 17 - 98		Jul 18 - 25
# of Days Sighted	18	28	15	12

Barn Swallow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 13 - 1	Jul 15 - 2	Jul 26 - 1
Last Sighting		Jun 9 - 1	Aug 12 - 3	Sep 2 - 1
Peak Day		Jun 8 - 2		All dates - 1
# of Days Sighted	0	7	2	3

Black-capped Chickadee:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 2	Apr 22 - 2	Jul 12 - 1	Jul 12 - 2
Last Sighting	May 15 - 2	Jun 10 - 1	Sep 30 - 4	Sep 30 - 6
Peak Day	4 dates - 4	May 7 - 6	Sep 18 - 12	Sep 6 - 15
# of Days Sighted	21	29	68	73

Boreal Chickadee:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1		Jul 15 - 1	Aug 4 - 1
Last Sighting			Sep 20 - 2	Sep 23 - 1
Peak Day				4 dates - 2
# of Days Sighted	1	0	8	11

Red-breasted Nuthatch:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	Apr 22 - 1	Jul 12 - 1	Jul 18 - 2
Last Sighting	May 15 - 1	Jun 8 - 1	Sep 30 - 4	Sep 25 - 1
Peak Day	All dates - 1	Apr 30 - 2	Sep 6&8 - 5	Aug 26 - 12
# of Days Sighted	8	35	36	43

White-breasted Nuthatch:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Aug 26 - 2	Sep 14 - 1
Last Sighting				
Peak Day				
# of Days Sighted	0	0	1	1

Brown Creeper:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 4 - 1	Apr 29 - 1	Aug 8 - 1	Jul 30 - 1
Last Sighting	May 11 - 1	May 18 - 1	Sep 21 - 1	Sep 24 - 1
Peak Day	All dates - 1	All dates - 1	All dates - 1	All dates - 1
# of Days Sighted	5	5	4	3

Winter Wren:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 1	Apr 26 - 1	Jul 13 - 2	
Last Sighting	May 15 - 1	Jul 1 - 1	Aug 11 - 1	
Peak Day	5 dates - 2	14 dates - 2		
# of Days Sighted	12	26	4	0

Golden-crowned Kinglet:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 26 - 1	Aug 29 - 4
Last Sighting			Sep 20 - 1	Sep 30 - 1
Peak Day				Sep 27 - 4
# of Days Sighted	0	0	2	15

Ruby-crowned Kinglet:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 25 - 3	Apr 22 - 1	Jul 12 - 1	Jul 18 - 1
Last Sighting	May 15 - 1	Jun 8 - 1	Sep 30 - 1	Sep 28 - 1
Peak Day	3 dates - 4	Apr 24 - 4	Sep 9 - 6	Sep 22 - 9
# of Days Sighted	18	23	20	31

Townsend's Solitaire:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Sep 27 - 1	Sep 23 - 2
Last Sighting				
Peak Day				
# of Days Sighted	0	0	1	1

Swainson's Thrush:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 7 - 1	May 14 - 2	Jul 12 - 3	Jul 15 - 3
Last Sighting	May 14 - 3	Jun 10 - 2	Sep 18 - 1	Sep 26 - 1
Peak Day	May 13 - 12	May 23 - 30	Aug 4 - 14	Sep 14 & 15 - 17
# of Days Sighted	5	27	62	66

Hermit Thrush:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 2	Apr 26 - 1	Jul 12 - 1	Jul 17 - 1
Last Sighting	May 15 - 1	Jun 4 - 1	Sep 23 - 1	Sep 21 - 1
Peak Day	May 5 - 8	May 2 & 12 - 5	Sep 21 - 2	Sep 17 - 4
# of Days Sighted	17	27	11	14

Veery:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 22 - 1	
Last Sighting				
Peak Day				
# of Days Sighted	0	0	1	0

American Robin:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 363	Apr 22 - 147	Jul 13 - 6	Jul 12 - 1
Last Sighting	May 15 - 2	Jun 10 - 2	Sep 30 - 1	Sep 28 - 1
Peak Day	Apr 27 - 1903		Sep 25 - 93	Sep 23 - 17
# of Days Sighted	24	48	37	50

European Starling:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 24 - 4	May 2 - 6		Sep 25 - 2
Last Sighting	May 15 - 3	May 20 - 2		
Peak Day	May 3 - 11	May 7 - 17		
# of Days Sighted	15	7	0	1

American Pipit:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 28 - 49	Apr 22 - 14	Aug 20 - 1	Aug 21 - 31
Last Sighting	May 15 - 6	May 25 - 2	Sep 30 - 1	Sep 30 - 1
Peak Day	May 3 - 228	May 9 - 235	Aug 26 - 35	Sep 7 - 156
# of Days Sighted	18	25	32	34

Cedar Waxwing:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 19 - 9	Jul 12 - 18	Jul 12 - 3
Last Sighting		Jun 10 - 15	Sep 29 - 3	Sep 19 - 5
Peak Day		Jun 2 - 83	Sep 9 - 109	Aug 21 - 120
# of Days Sighted	0	14	74	63

Tennessee Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 18 - 3	Jul 12 - 3	Jul 13 - 8
Last Sighting		May 30 - 2	Sep 27 - 1	Aug 29 - 2
Peak Day		May 22 - 26	Aug 11 - 201	Aug 11 - 79
# of Days Sighted	0	13	46	34

Orange-crowned Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 27 - 1	Apr 30 - 1	Jul 18 - 1	Aug 29 - 7
Last Sighting	May 13 - 79	May 24 - 1	Sep 30 - 2	Sep 27 - 1
Peak Day		May 2 & 7 - 15	Sep 9 - 52	Sep 6 - 51
# of Days Sighted	11	19	25	27

Yellow Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 8	May 14 - 1	Jul 12 - 8	Jul 13 - 5
Last Sighting	May 13 - 240	Jun 10 - 2	Aug 29 - 11	Sep 14 - 1
Peak Day		May 17 - 119	Aug 11 - 32	Jul 27 - 36
# of Days Sighted	4	27	41	44

Magnolia Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 1	May 18 - 1	Jul 12 - 1	Jul 13 - 1
Last Sighting		Jun 10 - 1	Sep 9 - 1	Sep 22 - 1
Peak Day		May 23 - 5	3 dates - 2	Aug 15 - 3
# of Days Sighted	1	21	22	17

Cape May Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 19 - 1	Aug 4 - 2	Jul 21 - 1
Last Sighting			Sep 5 - 1	Aug 29 - 1
Peak Day			Aug 14 - 4	Aug 11 - 8
# of Days Sighted	0	1	10	14

Yellow-rumped Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 74	Apr 22 - 20	Jul 12 - 35	Jul 15 - 9
Last Sighting	May 15 - 52	Jun 10 - 4	Sep 30 - 25	Sep 27 - 3
Peak Day	May 13 - 2503	May 17 - 1370	Aug 11 - 1101	Sep 3 - 932
# of Days Sighted	24	49	72	64

Black-throated Green Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 9 - 1	May 17 - 2	Jul 17 - 1	Jul 18 - 2
Last Sighting	May 13 - 1	Jun 8 - 1	Aug 26 - 1	Sep 20 - 1
Peak Day	All dates - 1	2 dates - 2	Jul 21&24 - 2	Jul 20 - 3
# of Days Sighted	3	9	9	6

Palm Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 12 - 3	May 14 - 1	Jul 19 - 1	Jul 27 - 2
Last Sighting	May 13 - 1	May 23 - 1	Sep 20 - 1	Sep 23 - 2
Peak Day		May 17 - 17	All dates - 1	Sep 14 - 5
# of Days Sighted	2	10	4	13

Bay-breasted Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 31 - 1	Jul 27 - 1
Last Sighting			Aug 24 - 1	Aug 25 - 1
Peak Day			Aug 20 - 2	Aug 5 - 6
# of Days Sighted	0	0	6	7

Blackpoll Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 5	May 17 - 17	Jul 24 - 1	Aug 1 - 1
Last Sighting		May 22 - 1	Sep 21 - 1	
Peak Day			Aug 29 - 2	
# of Days Sighted	1	3	3	1

Black-and-white Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 7 - 1	May 10 - 1	Jul 12 - 7	Jul 12 - 1
Last Sighting	May 15 - 5	Jun 10 - 2	Sep 8 - 1	Sep 8 - 1
Peak Day	May 11 - 11	May 17 - 10	Aug 11 - 61	Jul 20 - 14
# of Days Sighted	9	30	41	39

American Redstart:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 16 - 1	Jul 12 - 7	Jul 13 - 4
Last Sighting		Jun 10 - 12	Sep 15 - 1	Sep 25 - 1
Peak Day		May 20 - 33	Aug 5 - 41	Aug 10 - 33
# of Days Sighted	0	26	51	46

Ovenbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 2	May 11 - 1	Jul 12 - 2	Jul 12 - 1
Last Sighting	May 15 - 3	Jun 10 - 7	Sep 10 - 2	Sep 15 - 1
Peak Day	3 dates - 3	May 20 - 17	Aug 4 - 14	Jul 24 - 14
# of Days Sighted	6	29	45	36

Northern Waterthrush:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 11 - 1	May 14 - 1	Jul 12 - 1	Jul 15 - 2
Last Sighting	May 14 - 1	Jun 10 - 1	Aug 28 - 1	Sep 11 - 1
Peak Day	May 13 - 2	May 20 - 3	Jul 26 - 3	3 dates - 3
# of Days Sighted	3	20	14	14

Connecticut Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 1	May 24 - 1		
Last Sighting		May 30 - 1		
Peak Day				
# of Days Sighted	1	2	0	0

Mourning Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 20 - 2	Jul 13 - 1	Jul 20 - 1
Last Sighting		Jun 9 - 1	Sep 5 - 1	Aug 31 - 1
Peak Day		Jun 14 - 7	3 dates - 3	Jul 30 - 3
# of Days Sighted	0	17	13	16

Common Yellowthroat:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 20 - 2	Jul 12 - 1	Jul 12 - 1
Last Sighting		Jun 10 - 2	Sep 3 - 1	Sep 22 - 1
Peak Day		7 dates - 3	Aug 29 - 4	Jul 21 - 3
# of Days Sighted	0	21	18	23

Wilson's Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 20 - 1	Aug 11 - 2	Aug 5 - 1
Last Sighting		May 23 - 4	Sep 12 - 1	Sep 23 - 1
Peak Day		May 22 & 23 - 4	Sep 6 - 8	Aug 16 - 4
# of Days Sighted	0	4	14	10

Canada Warbler:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 20 - 2	Jul 12 - 1	Jul 14 - 1
Last Sighting		Jun 10 - 7	Aug 24 - 1	Aug 29 - 1
Peak Day		3 dates - 12	Aug 11 - 26	Jul 27 - 16
# of Days Sighted	0	22	36	37

Western Tanager:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 1	May 14 - 1	Jul 15 - 3	Jun 15 - 1
Last Sighting		Jun 10 - 1	Sep 7 - 1	Sep 1 - 1
Peak Day		May 17 - 5	Jul 21 - 20	Aug 26 - 7
# of Days Sighted	1	18	19	28

American Tree Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 5		Sep 4 - 1	Sep 18 - 1
Last Sighting	May 10 - 1		Sep 25 - 1	Sep 30 - 1
Peak Day	May 3 - 464			Sep 21 - 46
# of Days Sighted	16	0	2	7

Chipping Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 7 - 1	May 4 - 1	Jul 12 - 1	Jul 12 - 1
Last Sighting	May 15 - 126	Jun 10 - 4	Sep 7 - 1	Sep 4 - 1
Peak Day	May 13 - 4862	May 17 - 268	Aug 29 - 4	Aug 26 - 41
# of Days Sighted	7	34	9	13

Clay-colored Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 13 - 5	May 14 - 2	Aug 12 - 1	Jul 13 - 1
Last Sighting	May 15 - 1	Jun 7 - 4	Aug 28 - 1	Sep 14 - 1
Peak Day		May 19 - 34		Jul 22 - 2
# of Days Sighted	3	24	2	12

Vesper Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 1 - 1	May 15 - 1		
Last Sighting	May 8 - 1			
Peak Day	May 2 - 2			
# of Days Sighted	6	1	0	0

Savannah Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 30 - 2	May 2 - 1	Aug 24 - 1	Aug 29 - 1
Last Sighting	May 14 - 1	May 24 - 1	Sep 13 - 1	Sep 13 - 1
Peak Day	May 6 - 6	May 9 - 20	All dates - 1	Sep 12 - 3
# of Days Sighted	11	12	4	4

Fox Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 3		Jul 18 - 1	Sep 12 - 1
Last Sighting	Apr 30 - 33			Sep 30 - 1
Peak Day				Sep 13 - 3
# of Days Sighted	2	0	1	4

Song Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 26 - 1	Apr 22 - 3	Jul 12 - 4	Jul 12 - 2
Last Sighting	May 15 - 2	Jun 10 - 3	Sep 9 - 1	Aug 22 - 3
Peak Day	May 13 - 8	3 dates - 5	Jul 26 - 6	Aug 22 - 3
# of Days Sighted	20	50	39	36

Lincoln's Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 8 - 1	May 1 - 1	Jul 12 - 2	Jul 12 - 2
Last Sighting	May 15 - 1	Jun 10 - 2	Sep 23 - 1	Sep 25 - 1
Peak Day	May 10 - 7	May 22 - 10	4 dates - 3	Sep 21 - 8
# of Days Sighted	6	35	31	51

White-throated Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 8 - 9	Apr 28 - 1	Jul 12 - 3	Jul 12 - 3
Last Sighting	May 15 - 16	Jun 10 - 1	Sep 16 - 1	Sep 22 - 3
Peak Day	May 10 - 40	May 17 - 28	Jul 15 - 9	Jul 18&Sep 13- 9
# of Days Sighted	8	41	50	56

White-crowned Sparrow:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 4 - 4	Apr 25 - 1	Sep 9 - 1	Sep 2 - 1
Last Sighting	May 13 - 4	May 26 - 1	Sep 25 - 2	Sep 30 - 1
Peak Day		All dates - 1	Sep 23 - 6	Sep 12 & 26 - 4
# of Days Sighted	2	5	4	11

Dark-eyed Junco:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 84	Apr 25 - 1	Jul 25 - 1	Aug 29 - 2
Last Sighting	May 14 - 3	Apr 30 - 1	Sep 30 - 2	Sep 27 - 4
Peak Day	May 3 - 1002	All dates - 1	Sep 21 - 15	Sep 21 - 121
# of Days Sighted	19	3	13	18

Lapland Longspur:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 28 - 8	Apr 22 - 31	Aug 29 - 4	Aug 29 - 19
Last Sighting	May 13 - 55	May 25 - 1	Sep 29 - 1	Sep 23 - 2
Peak Day	May 3 - 74	May 2 - 75	Sep 11 - 34	Sep 14 - 21
# of Days Sighted	7	8	18	19

Snow Bunting:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 1	May 8 - 1		
Last Sighting	Apr 25 - 2			
Peak Day	Apr 24 - 3			
# of Days Sighted	3	1	0	0

Rose-breasted Grosbeak:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 15 - 1	May 15 - 3	Jul 17 - 1	Jul 18 - 1
Last Sighting		Jun 10 - 2	Sep 5 - 1	Aug 29 - 1
Peak Day		May 19 - 48	Aug 11 - 9	Aug 11 - 10
# of Days Sighted	1	24	23	29

Red-winged Blackbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 29 - 1	Apr 25 - 3	Jul 17 - 25	Jul 18 - 2
Last Sighting	May 15 - 2	Jun 10 - 1	Aug 5 - 13	Aug 11 - 4
Peak Day	May 13 - 56	May 9 - 30		
# of Days Sighted	16	20	4	3

Yellow-headed Blackbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 10 - 7	May 13 - 6	Aug 11 - 1	
Last Sighting		May 17 - 7		
Peak Day				
# of Days Sighted	1	3	1	0

Brewer's Blackbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 24 - 2			
Last Sighting	Apr 27 - 22			
Peak Day	Apr 26 - 36			
# of Days Sighted	4	0	0	0

Common Grackle:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 2	Apr 24 - 2	Aug 3 - 1	Jul 13 - 3
Last Sighting	May 13 - 2	Jun 7 - 3	Sep 21 - 12	Sep 3 - 3
Peak Day	Apr 27 - 47	May 9 - 39	Aug 24 - 39	
# of Days Sighted	11	14	13	7

Brown-headed Cowbird:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 6 - 1	May 2 - 3	Jul 13 - 1	Jul 18 - 1
Last Sighting	May 15 - 1	Jun 10 - 2	Jul 18 - 4	Aug 11 - 1
Peak Day	May 10 - 20	May 17 - 39		Jul 21 - 2
# of Days Sighted	10	31	1	4

Baltimore Oriole:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting		May 15 - 2	Jul 21 - 1	
Last Sighting			Jul 22 - 1	
Peak Day				
# of Days Sighted	0	1	2	0

Purple Finch:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 23 - 1	Apr 23 - 1	Jul 13 - 1	Jul 15 - 1
Last Sighting	May 15 - 2	Jun 8 - 2	Sep 13 - 1	Sep 12 - 1
Peak Day	May 3 - 29	May 8 & 9 - 3	Aug 24 - 15	Aug 5 - 22
# of Days Sighted	20	18	37	38

White-winged Crossbill:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting			Jul 13 - 1	Jul 12 - 2
Last Sighting			Aug 27 - 14	Sep 30 - 2
Peak Day			Jul 24 - 70	Jul 13 - 5
# of Days Sighted	0	0	29	13

Common Redpoll:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 20	Apr 25 - 1		
Last Sighting	May 13 - 6			
Peak Day	Apr 24 - 27			
# of Days Sighted	8	1	0	0

Hoary Redpoll:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	May 8 - 1			
Last Sighting				
Peak Day				
# of Days Sighted	1	0	0	0

Pine Siskin:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 30	Apr 22 - 5	Jul 12 - 79	Jul 12 - 3
Last Sighting	May 14 - 1	Jun 2 - 2	Sep 30 - 3	Sep 30 - 2
Peak Day	May 3 - 100	May 3 - 7	Sep 7 - 187	Aug 4 - 104
# of Days Sighted	14	31	55	60

Evening Grosbeak:

	Spring 2011	Spring 2010	Fall 2011	Fall 2010
First sighting	Apr 22 - 1	Apr 22 - 2	Jul 15 - 5	Jul 15 - 1
Last Sighting	May 15 - 3	Jun 2 - 3	Sep 25 - 1	Sep 27 - 10
Peak Day	May 13 - 15	Apr 27 - 12	Jul 25 - 16	Jul 22 - 26
# of Days Sighted	24	30	36	43