

Albert Creek Bird Observatory Final Report 2012



Ben Schonewille & Ted Murphy-Kelly
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The 2012 operation of the Albert Creek Bird Observatory was made possible due to support and financial contributions from the following organizations.



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Cover Photo: Wilson's Warbler (Photo: Manda Maggs).

The Albert Creek Bird Observatory is a project of the Society of Yukon Bird Observatories (SOYBO; PO Box 30056, Whitehorse, YT, Y1A 5M2). SOYBO was established during 2010 to formalize the operation of the Yukon Bird Observatories. The objectives of SOYBO are: (1) contribute to the conservation of migratory birds in western North America, (2) to make the public aware of the avifauna of the Yukon and educate the public, and, (3) to work with other societies, organizations and individuals with similar objectives. For further information, email – teslin.bird.banding@gmail.com

EXECUTIVE SUMMARY

The Albert Creek Bird Observatory completed its twelfth consecutive year of spring and fall migration monitoring during 2012. In spring, the field station operated for a total of 42 days from April 21 to June 8. During fall, the station operated in a limited capacity due to funding constraints; 19 days from August 6 to September 9. The primary method of monitoring bird migration at the study site is through the use of standardized mist netting and banding of birds captured. Mist netting resulted in the capture and banding of 4,133 of 57 species in spring and 703 birds of 40 species in fall. In spring, the top 5 species banded were American Tree Sparrow, Yellow-rumped Warbler, Yellow Warbler, Orange-crowned Warbler and White-crowned Sparrow. In fall, the top species included Northern Waterthrush, Yellow-rumped Warbler, Common Yellowthroat, Ruby-crowned Kinglet and Wilson's Warbler. Species with a restricted range in the Yukon continue to be monitored at Albert Creek, including: Magnolia Warbler, Cape May Warbler, Western Tanager, Swamp Sparrow and White-throated Sparrow. The data collected at the observatory in 2012 builds upon the database of knowledge pertaining to the birds of the Yukon. Over the long term, this data will form a crucial step in the calculation of population trend analyses for numerous bird species. The observatory continues to attract numerous volunteers to assist with day to day operations; in 2012 a total of 507 volunteer hours were tallied at the station. Numerous visitors also continue to be attracted to the site; this year the station had a total of 102 visitor hours, including a Y2C2 (Yukon Youth Conservation Corps) crew.

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Jukka Jantunen & Ted Murphy-Kelly were the primary Banders-In-Charge of the bird observatory during the 2012 season. Jukka and Ted's bird identification skills and perseverance were once again a definite asset to the quality of the data collected at the observatory.

The following list summarizes the individuals who played a role in the 2012 operation of the Albert Creek Bird Observatory.

| | |
|------------------|---|
| Ted Murphy-Kelly | Station Manager, Primary Bander In Charge, Report Editing |
| Jukka Jantunen | Secondary Bander In Charge, Report Editing |
| Ben Schonewille | Assistant Station Manager, Data Entry/Analysis/Reporting |
| Jim Hawkings | Report Editing |

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The following volunteers assisted with the operation of the observatory: over 20 days – Susan Drury; 10 to 20 days – Julie Bauer; 5 to 10 days – Manda Maggs, Ray Harrison, Terry Skjonsberg; 1 to 5 days – Toby Berstein, Shyloh van Delft, Mike Dunn, Chris Nemeth, Amber Rudd, Ryan Drummond, Matt Clarke, Martin Owen, Bryce Sharpe.

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1.0 Introduction

The Albert Creek Bird Observatory operated during the spring migration season only in 2012. The observatory completed its twelfth year of operation thanks to financial support from several government and non-government agencies. Although the observatory began operation during 2001, monitoring at the site became standardized and more rigorous beginning in 2004.

The goals of the Albert Creek Bird Observatory are to:

- Gather baseline information on birds and bird migration in the southeast Yukon.
- Collect data to facilitate the long term monitoring (*i.e.* trend analysis) of birds in the southeast Yukon.
- Conduct and participate in specific studies such as feather collection and color banding of species of interest.
- Provide a setting for the public including school groups to learn about birds and bird migration.
- Provide employment and training opportunities for students and volunteers.
- Provide a unique tourist attraction for the community of Watson Lake.

The observatory carries out research on birds which is shared through an international bird banding database (Canadian Wildlife Service's Bird Banding Office and USGS Bird Banding Laboratory), Society of Yukon Bird Observatories annual station reports, and other publications. Many of the birds banded at Albert Creek are highly migratory spending the winter months as far south as Central and South America. In addition to the potential knowledge gained from band recoveries, the observatory also continues to gather baseline data of birds (and their migration) in the Liard region, and the Yukon as a whole. Due to the large landmass of the territory, and the relatively few bird biologists and advanced birders in the Yukon, there is still a great deal to be learned regarding the bird life of the Yukon. This is even more pronounced in the southeast Yukon, where a number of species are at the extreme northwest of their range. A number of species are not regularly found west of Albert Creek, thus allowing the observatory to monitor the presence of these species in the territory. The observatory serves as a highly valuable research and monitoring project to better understand the distribution of many of the Yukon's bird species, many of which are considered uncommon or rare. Over the long term, the data collected at the observatory will facilitate trend analysis for a number of species. Such information will be valuable for conservation and monitoring of bird populations not only in the Yukon, but North America as a whole.

The observatory plays a role in education as a place where the public, volunteers and students can take part in a unique, community based research project. Across the Yukon (and the world), there are numerous people who have an interest in birds; however, many find it a daunting task to learn the various species. For such people, a visit to the observatory can be extremely rewarding as they often have the opportunity to get close up views of many bird species which are difficult to observe in nature. The highly trained individuals working at the observatory have the ability to identify these species with ease and are happy to share their expertise with the public.

2.0 Methods

The methods for the operation of the bird observatory follow the Albert Creek Bird Observatory Field Protocol and Manual (currently being formalized). A brief summary of the field protocol is described in the following sections; however, for a detailed description refer to the aforementioned document. All monitoring activities at the observatory can be separated into standardized and non-standardized. To facilitate long term analysis of the observatory's data, the standardized data is collected in the same format year after year. Non standardized activities may include species specific mist nets within the count area or the collection of banding / observation data outside of the standard count period. For every species observed, estimated totals are calculated for every day of operation using the following categories;

- Band: new birds banded
- Recaptures: previously banded birds, not included if recaptured on the initial day of banding
- Other Visual Migrants: birds in obvious migration flight observed incidentally
- Census: birds observed while on census only
- Observed: all other bird observations includes incidental observations and the lake counts

Using the categories outlined above, the Bander-In-Charge estimates the total number of birds observed within/passing through the count area within the standard count period on a daily basis. Using only the standard count period data, this number represents the "Daily Estimated Total – DET" and when the non-standard data is included, this number represents the "Daily Species Total – DST".

2.1 Mist Netting

The primary method of monitoring the movement of birds at the study site is the use of mist nets for the purpose of capturing and banding birds. The observatory operates with 23 standard mist nets and one non-standard mist net (Figure). Non-standard nets used in 2011 were limited to net 27 (target: Rusty Blackbirds) and nets 24 to 26 (target: owls). All nets are 30 mm mesh and 12 m in length, with the exception of nets 18 and 22 which are 18 m in length. The standard mist netting effort begins at official sunrise and continues for 6 hours. The full mist netting effort is achieved only on days when adequate personnel are present onsite and weather conditions are favorable. If this is not possible, the effort is reduced in the number of nets operated rather than reducing the duration of effort.

2.2 Census

To supplement the banding data, five short census "legs" are surveyed on a daily basis as personnel allow. Many other observatories operate a longer (1 hour) census through the count area; however, this is not possible at Albert Creek due to inconsistent numbers of qualified observers on site. Census legs are predefined routes which are followed by a single observer to record bird observations

independent from the mist netting captures and incidental observations. The short census legs allow for a single observer to census birds without committing a full hour to this activity. On days when bird captures are relatively low/moderate and adequate personnel are onsite, these census legs can be surveyed in combination with the mist net checks.

2.3 Incidental Observations

Incidental observations are collected on a continuous basis at the observatory. For example, birds observed while conducting mist net checks would be considered incidental observations. Any birds in obvious migration flight (flying over the site) are recorded as 'other visual migrants' on the daily log sheets.

2.4 Study Site

The bird observatory is located along Albert Creek in the Liard River Valley, 15 km west of the community of Watson Lake in the southeast region of the Yukon Territory. The majority of the site is composed of a regenerating forest with the marsh being the defining feature of the study site. The area is dominated by willow (*Salix* spp.), alder (*Alnus* spp.) and regenerating white birch (*Betula papyrifera*) with some mature white spruce (*Picea glauca*), trembling aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*) scattered throughout. The under-story vegetation within the regenerating portion of the study site consists primarily of red clover (*Trifolium pratense*), fireweed (*Epilobium augustifolium*), yarrow (*Achillea millefolium*), red raspberry (*Rubus idaeus*), prickly rose (*Rosa acicularis*) as well as various grass species (*Poa* spp). Within the stands of mature white spruce, the under-story is dominated by various bryophytes and cranberry (*Vaccinium vitis-idea*) with willow, alder and red osier dogwood (*Cornus stolonifera*) scattered throughout.

3.0 Results & Discussion

During 2012, the observatory operated during both the spring and fall seasons; however, in the fall, the station was not operational for the full season. The results for the spring and fall are presented separately in the following sections. Including the 2012 data, a total of 43,440 birds of 90 species have been banded at Albert Creek (Table 1).

3.1 Spring Migration Season

During the spring season, 4,133 birds of 57 species were banded (Tables 2 – 3) and 116 species were observed (Tables 4 - 5). Each component of the 2012 spring data is summarized and presented in the following subsections; however, a detailed account of the 2012 spring estimated total data is shown in Table 5. Note that unless otherwise stated, the results presented in this report combine and summarize both standard and non-standardized data. The standardized data shall be utilized over the long term for the purposes of conducting species trend analysis.

As compared to previous banding totals, the 2012 spring total was the highest to date and substantially higher than the 2003 to 2011 average of 2,110 individuals (Figure 2). When considering the amount of mist netting effort, the 2012 total (91.4 birds/100 net hours) was also the highest to date and substantially more than the 2003 to 2011 average of 51.5 birds/100 net hours. Banding numbers during the spring are influenced by a number of factors, most notably the weather and timing of the spring melt and green up. High captures of a small number of species (such as American Tree Sparrow, Myrtle Warbler and Yellow Warbler) greatly influenced the mist netting productivity during 2012.

During the spring season, there were two notable peaks in bird migration as represented by the weekly banding totals (Figure 3). The first peak occurred during week 2 when the catch was dominated by sparrows, in particular American Tree Sparrow of which 247 were banded (27% of all birds banded during the week). An early pulse of Myrtle Warblers also occurred during this week with a total of 98 banded.

The second peak in migration activity occurred during week 6, when the majority of birds banded were warblers (65% of the weekly total; Figure 3). The top species banded during the week included: Yellow Warbler (404), Wilson's Warbler (131), Blackpoll Warbler (55), Tennessee Warbler (50) and Myrtle Warbler (46). Alder Flycatcher were also captured in good numbers during week 6, with a total of 41 individuals banded.

Standard mist nets with the highest productivity were those within and adjacent to marsh habitats including nets 13 and 23 (Figure 4). This is presumably due to the edge habitats present in these areas which provide feeding opportunities and movement corridors within the marsh. Note that the net capture rates are lower in areas with a higher vegetation canopy (ie. nets 16 and 18). Although the overall captures are low for these nets, the species captured are often under-represented by other nets with higher overall capture rates.

3.1.1 Migration Timing

The standardized monitoring at the observatory can be used to investigate the spring migration timing of numerous species. This section is separated into the following subsections: (3.1.1) generalized spring migration timing of species banded, and species specific migration timing (3.1.2).

3.1.1.1 Generalized Migration Timing

Generalized spring migration timing during 2012 and 2011 for temperate, neotropical and irruptive migrants/residents is shown in Figure 5. The high capture rate of sparrows experienced during 2012 is evident in the very high trend in temperate migrants. The very high capture of neotropical migrants was also evident in late May. As compared to 2011, the capture of all migrants was substantially higher during 2012 and there was also a more typical spike in migrant captures during the relevant migration window – late April/early May for temperate migrants and late May for neotropical migrants.

Spring arrival dates for species encountered in sufficient numbers can also be used to make general migration timing comparisons between years. Spring arrival dates for 22 species are shown in Table 6. This data shows that most species arrived earlier than average in 2012. Of the 22 species shown in Table 6, 16 species arrived earlier than average, 2 species arrived later and 4 species arrived on the average date. The most notable early arrivals were Swainson's Thrush (3 May) and Wilson's Warbler (30 April); these species arrived the earliest to date at Albert Creek and were 10 and 8 days earlier than average, respectively.

3.1.1.2 Species Specific Spring Migration Timing

Species specific spring migration timing was analyzed for 17 species using the mist netting captures and effort (Figures 6 – 22). Migration timing figures were compiled by grouping data over 5 day intervals and standardized to a number of birds banded per 100 net hours; the species analyzed include the following;

- Alder Flycatcher
- Ruby-crowned Kinglet
- Swainson's Thrush
- Northern Waterthrush
- Tennessee Warbler
- Orange-crowned Warbler
- Common Yellowthroat
- Yellow Warbler
- Blackpoll Warbler
- Myrtle Warbler
- Wilson's Warbler
- American Tree Sparrow
- Savannah Sparrow
- Fox Sparrow
- Lincoln's Sparrow
- White-crowned Sparrow
- Slate-colored Junco

3.2 Fall Migration Season

During the fall migration season, the station operated for a total of 19 days during which a total of 703 birds of 40 species were banded (Table 7) and 70 species were observed (Tables 8 - 9). The station was not operated at full capacity during the fall season (non-standard) and therefore, comparisons such as migration timing cannot be made to previous years.

3.3 Band Repeats, Returns & Recoveries

The proportion of band repeats during the spring season was 9.9 % overall and American Tree Sparrow had the highest number of band repeats (with the exception of Gray Jay; Table 10).

Band returns (individuals banded at the site in previous years) typically represent individuals that breed within the study site as the likelihood of re-trapping migrants is relatively low. During the 2012 spring and fall seasons combined, the observatory had 59 returns of birds banded in previous years representing 21 species (Tables 11 - 12). There were also a small number (7) of individuals banded during the spring which were subsequently recaptured during the fall.

The oldest band return was a Black-capped Chickadee originally banded at the site on September 1, 2005. Species well represented in the band returns, such as Yellow-bellied Sapsucker, Warbling Vireo, Swainson's Thrush and Common Yellowthroat are some of the most common breeding birds at Albert Creek. Many of the band returns represent individuals which have been recaptured at the site on a number of occasions in previous years.

Foreign band recoveries are a very infrequent event and to date there have been three foreign band recoveries of birds banded at Albert Creek;

- Hatch year male Yellow-rumped Warbler banded on July 26, 2010 and recovered in Louisiana on November 2, 2010.
- Hatch year Pine Siskin banded on August 22, 2011 and recovered in Bottrel, Alberta on May 19, 2012.
- Hatch year Pine Siskin banded on July 17, 2010 and recovered near Portland, Oregon on April 4, 2012.

3.4 Interesting & Notable Captures / Observations

The vast majority of birds banded and observed at Albert Creek are species which are common and widespread north and west of the study site. As the observatory operates on a daily basis during the migration season, there are often a number of interesting and notable species captured and/or observed at the site. The following section summarizes these during 2012 as well as the occurrence of the species not regularly found farther west and north in the Yukon than Albert Creek.

Sora

Sora is the only species of rail recorded in the Yukon and is uncommon at productive wetlands, primarily in the southern portion of the territory. In 2012, this species was observed during the spring on 14 days from May 2 to June 8 with single birds observed on all days. In fall, this species was observed on 3 days from August 19 to 24 with single birds on all days. The numbers observed appear to be variable between years; however, the numbers recorded in 2012 were above average but less than the record high numbers observed during 2012 (Figure 23). To date, the earliest and latest records for this species at Albert Creek are May 2 (2012) and September 9 (2007).

American Coot

American Coot is an uncommon species at wetlands in the southern Yukon and is seen infrequently at Albert Creek. In 2012, this species was observed only during the spring on a total of 5 days from May 6 to 12 with a high count of 3 birds on May 12. Prior to 2012, there are 7 previous records of this species at the station: 22, 23, 24 May 2011; 9, 11, 13 May 2003 and 2 May 2005.

During site testing during 2002, this species was much more common at the site than in recent years. During the spring, a total of 33 bird days were counted between May 25 and June 14 with a high count of 9 on May 25, and during the fall a total of 85 bird days were counted between August 10 and September 20 with a high count of 21 on September 1.

Barred Owl

The Yukon's first Barred Owl was documented at Albert Creek during the spring season of 2010 when it was heard on 20 days between April 20 and June 4 and also on August 26. In 2012, a singing individual was heard on 31 days from April 23 to June 5 and also on one day during the fall (August 28).

Pileated Woodpecker

The least common woodpecker in the Yukon, Pileated Woodpecker is restricted to the southeast portion of the territory. In 2012, the species was observed on 8 days during spring from May 20 to June 8 with single birds on all days. In fall, there was one sighting of a single individual on August 7.

Although none were banded in 2012, this species has been banded in previous years; 1 in spring 2005 and 2 in fall 2005. This species was much more common at the site from 2003 to 2008 (Figure 24) than more recently and there have not been sightings of more than one individual per day since 2008.

Yellow-bellied Flycatcher

Yellow-bellied Flycatcher is one of the least frequently encountered *Empidonax* flycatchers at Albert Creek. During the spring of 2012, this species was encountered on 3 days from May 30 to June 8 with a high count of 3 individuals on June 8 (including one banded that day). During the fall, one individual was observed on August 6 and one hatch year individual was banded on August 19.

To date, a total of 31 individuals have been banded with 81% being captured during the fall. This species is a late spring migrant, the earliest individual banded was on June 4 (2007). In most years, the station does not operate later than June 6 and therefore this species is likely underrepresented in the spring data. The fall banding data suggests that this species may be becoming more common at Albert Creek (Figure 24). Given that this species does not breed at the site, this data suggests that this species may be increasing in numbers in the Yukon/Alaska.

Blue-headed Vireo

With a range typically restricted to the southeast Yukon, Blue-headed Vireo is observed infrequently at Albert Creek. During 2012, there was one record of a singing male on May 27. Although none were banded during 2012, a total of 16 individuals have been banded to date (all in fall) including: 2 in 2003, 6 in 2004, 4 in 2005, 2 in 2006, 1 in 2007 and 1 in 2011.

American Crow

American Crow appears to be increasing in numbers in the Yukon and is now regularly encountered at a number of locations near Albert Creek, including the town of Watson Lake, Watson Lake airport and Upper Liard. In 2012, this species was encountered on 8 days during the spring from April 23 to June 8 with a high count of 2 individuals on April 23. In fall, there was a single sighting on August 28.

Cedar Waxwing

Unlike the more common Bohemian Waxwing, Cedar Waxwing is relatively uncommon in the southern Yukon. Although not observed annually at Albert Creek, on some years it is observed frequently at the site. During 2012, this species was observed on 4 days during the fall from August 19 to 24 with high counts of 2 individuals on August 21 and 24. None were banded during 2012; however, 25 have been banded at the station to date, including: 8 in 2004 (fall), 8 in 2007 (fall), 3 in 2008 (fall), 1 in 2009 (fall), 4 in 2010 (fall) and 1 in 2011 (spring). The previous capture of adults in breeding condition and recently fledged juveniles suggests that this species breeds at the site in some years.

Magnolia Warbler

In most of the Yukon, Magnolia Warbler is a rare species; however, it is a regular breeding species in the southeast portion of the territory (and a likely breeder at Albert Creek).

In the spring of 2012, the species was observed on 26 days (37 bird days) from May 24 to June 8 with a high count of 3 birds on May 25; a total of 6 individuals were banded. In fall, single hatch year individuals were banded on August 21 and September 1; there was also a single individual observed on August 6. Of the 224 individuals banded to date, 84% have been banded in fall. The earliest and latest records of this species at the observatory to date are May 24 (2005, 2012) and September 8 (2004).

Based upon fall mist netting data, the capture rate of Magnolia Warblers has remained relatively similar since 2003 (Figure 25); however, there is some indication that this species may be decreasing at the site. Additional years of data collection are required to confirm this pattern. Due to the limited range of this species in the Yukon, lower capture rates may be an indication of a decrease in local productivity. Note that the 2012 data are shown; however, they are not directly comparable to previous years as the mist netting effort during the migration window was substantially less.

Cape May Warbler

Similar to Magnolia Warbler, the Cape May Warbler's Yukon range is primarily restricted to the southeast portion of the territory. In recent years, this species has become more common at Albert Creek and local breeding is possible given the presence of singing males on territory. Records during 2012 included individual birds on 9 days from May 28 to June 8. Of the 15 individuals banded to date at the observatory, 60% have been banded in fall. The earliest and latest records of this species at the observatory are May 24 (2007) and September 6 (2007).

Black-and-white Warbler

Another species typically only found in the southeast portion of the territory, Black-and-white Warbler is one of the least common warbler species encountered at Albert Creek. In 2012, one individual was banded on May 26; previous individuals banded have included single birds on May 21 (2006, 2007), May 31 (2009), June 4 (2003) and August 4 (2005).

American Redstart

American Redstart is found across southern Yukon; however, it is much more common in the southeast portion of the territory. In the spring of 2012, fifteen individuals were banded and the species was observed on 17 days from May 22 to June 8 with a high count of 6 on May 30. In the fall, 17 were banded (94% hatch year) and the species was recorded on 6 days (26 bird days) from August 6 to 25 with a high count of 10 individuals on August 7. As this species arrives relatively late in spring, it is likely that the majority of individuals arrive at the site after the station has closed for the season.

The all time banding total of this species at the observatory is 586 individuals with 83% being during the fall. The earliest and latest records of this species at the observatory are May 22 (2012) and September 15 (2008). The long term mist netting data up until 2010 suggested that this species was becoming more common at Albert Creek; however, 2011 and 2012 have shown lower capture rates. Note that the 2012 data are shown; however, they are not directly comparable to previous years as the mist netting effort during the migration window was substantially less.

Ovenbird

Another species typically only found in the southeast portion of the territory, Ovenbird is one of the least common warbler species encountered at Albert Creek. In 2012, one individual was banded on May 25; previous individuals banded have included single birds on May 29 (2003) and August 20 (2006).

Swamp Sparrow

In most of the Yukon, Swamp Sparrow is a rare; however, it is a regular breeding species in the southeast portion of the territory (and a likely breeder at Albert Creek).

In the spring of 2012, single individuals were banded on May 24 and 28 and additional single individuals were observed on May 31, June 1 and June 6. In the fall, 8 hatch year individuals were banded between August 7 and 26. Similar to other species such as Yellow-bellied Flycatcher and American Redstart, this species is a late spring migrant and it is possible that a large proportion of individuals arrive after the station has closed for the spring season. Of the 315 individuals banded to date, 92% have been banded in fall. The earliest and latest records of this species at the observatory to date are April 27 (2005) and September 21 (2006).

Based upon fall mist netting data, Swamp Sparrow captures from 2003 to 2012 have been variable and there is no obvious increasing or decreasing trend ((Figure 27). Due to the limited range of this species in the Yukon, capture rates likely provide an indication of local productivity. Note that the 2012 data are shown; however, they are not directly comparable to previous years as the mist netting effort during the migration window was substantially less.

White-throated Sparrow

This species is observed infrequently in most of the Yukon, but is a regular breeder in the southeast Yukon as far west as the Rancheria area. In 2012, 10 individuals were banded in the spring and 7 in the fall. To date, 375 individuals have been banded at Albert Creek, of which 58% have been in fall. The earliest and latest records of this species are May 1 (2010) and September 21 (2008).

When combined, the spring/fall mist netting index suggests that the capture rates of White-throated Sparrows have declined at Albert Creek since 2003 (Figure 28). The individuals captured at Albert

Creek represent a mixture of local breeders and migrants so the significance of this trend is unclear. It is important to note that additional years of data collection are required to gain an increased level of confidence in this trend. Preliminary data from Roadside BBS (Breeding Bird Survey) routes in the Watson Lake area also indicate that this species may be increasing in the region. This is possibly due to an increased frequency and size of forest fires in the region which create suitable breeding habitat for this species.

Western Tanager

Western Tanager is another species with a restricted Yukon range which is a likely local breeder at Albert Creek. In the spring of 2011, 1 individual was banded on May 22 and the species also was observed on June 1; the species was not observed in fall. To date, a total of 32 individuals have been banded with 59% being banded in the fall. The earliest and latest records of this species at the observatory are May 16 (2005) and August 31 (2005).

Rose-breasted Grosbeak

This species Yukon range is restricted to the extreme southeast; however, it is observed infrequently at Albert Creek. In 2012, there were two observations during spring (May 31, June 1) with single birds on each day. Previous records of this species at the observatory include: May 23 (2007), May 26/27 (2005), June 4 (2010), July 31/August 1 (2004). This species is yet to be banded at the observatory.

3.6 Rusty Blackbirds

As part of an ongoing project in co-operation with Pam Sinclair (CWS-Whitehorse) and the other Yukon Bird Observatories field stations (Teslin Lake, McIntyre Marsh), all Rusty Blackbirds captured are fitted with a color band (light green or white) in addition to the regular band. As each Rusty Blackbird study site uses a different color, the color bands help to identify the origin of a re-sighted individual without the need to recapture it. In 2012, 80 individuals were banded in the spring (28 SY, 51 ASY and 1 AHY) and 5 were banded in fall (3 AHY, 2 HY). Since 2001, a total of 492 Rusty Blackbirds have been banded at the observatory.

3.7 Visitors and Volunteers

Once again the observatory hosted numerous visitors and volunteers during 2011. On many days of operation, especially in spring, volunteer personnel were available onsite to provide valuable assistance with the observatory's operation. Tables 13 and 14 summarize the number of hours spent at the observatory by visitors, volunteers and paid workers. Visitors were defined as those people who visited the observatory (often for a short time) and did not take part in activities at the observatory. Volunteers were those people which took part in the operation of the observatory (often extensively) without being financially compensated. Paid hours were spent by individuals being paid to be at the

observatory. This category includes the Banders-In-Charge (Jukka Jantunen and Ted Murphy-Kelly) and individuals paid by other organizations (Yukon Government, Canadian Wildlife Service, etc). Note that the values shown for “paid hours” only include those spent at the observatory and do not include the extensive amount of travel to and from the site, data entry, data analysis, report writing and other communication of the observatory’s results. The Watson Lake Visitor’s Center and public library played a key role in directing visitors to the observatory, particularly those individuals travelling the Alaska Highway.

The Society of Yukon Bird Observatories has begun to use social media to promote the field stations (including Albert Creek) by providing regular station updates and photos of birds banded and observed. A Facebook group page (Yukon Bird Observatories) now has 163 members and as of December 2012, the blog page (<http://yukonbirdobservatories.blogspot.com>) has had over 10,000 page views including nearly 1,200 page views from April to June and July to September 2012 when McIntyre Marsh was operating.

4.0 Conclusion & Recommendations

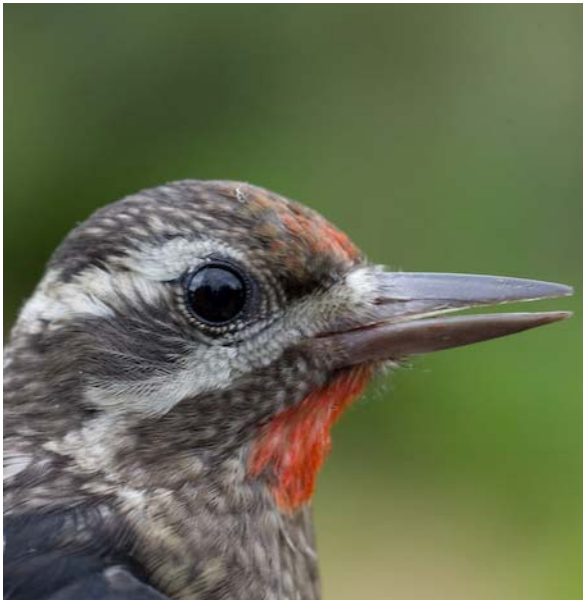
The results from this season's operation continue to add to the knowledge of numerous aspects of bird biology in the Yukon, including: species distribution, migration timing and local productivity. The study site has proven to be a very effective location for monitoring bird migration. The primary reason for this is the proximity to the extensive Albert Creek Marsh which is a very productive stopover and breeding area for numerous bird species. The geographic location of the observatory also allows a number of species to be monitored which are at the margin of their range and cannot be found elsewhere in the Yukon.

In 2012, the observatory completed its twelfth consecutive year of operation; however, the observatory's protocols were not well developed until 2003/2004. The data collected at the observatory to date have indicated a capacity to monitor bird migration during the spring and fall. The primary long term goal of the observatory is to continue migration monitoring and collect data to facilitate the calculation of long term population trends. Although a high diversity of bird species are encountered at the observatory, not all species are suitable candidates for trend analysis. This is due to inadequate sample size of less numerous species or incomplete migration season coverage. As such, the key species for monitoring are those which are relatively common and have the majority of their migration covered by the observatory's monitoring season. Results collected to date suggest that the observatory has a high potential for monitoring a variety of bird species with a primary focus on passerines. Further data collection is required; however, species trend analysis may also be possible for other groups of birds in the future including waterfowl, waterbirds, shorebirds and raptors.

The observatory has been successful in attracting members of the public from Watson Lake and elsewhere to learn about birds and bird migration. Due to the proximity to the Alaska Highway, the observatory has also been successful in attracting tourists to the site.

APPENDIX A – Albert Creek Bird Observatory Monitoring Protocol

Albert Creek Bird Observatory (ACBO) Field Protocol



Ben Schonewille & Ted Murphy-Kelly
Society of Yukon Bird Observatory
2011 (version 1)

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1.0 Introduction

The Albert Creek Bird Observatory (ACBO) was established in the spring of 2001 by Ted Murphy-Kelly with assistance from a number of agencies including the Southeast Yukon Proper Land Use Society, Canadian Wildlife Service, Yukon Environment and the Yukon Conservation Society. The station is located along the Rancheria Loop Road near Upper Liard, approximately 15 km west of Watson Lake, YT. Over the period of 2001 to 2004, the station operated annually during spring and fall; however, the operations were not standardized. Beginning in 2005, efforts were made to standardize the monitoring efforts at the observatory and this document is intended to serve as a guide in ensure consistent monitoring in the future.

ACBO is an associate member of the nationwide CMMN (Canadian Migration Monitoring Network). Situated in the Liard River valley (60.062° N, 128.916° W) in the southeast Yukon, ACBO offers an ideal location to monitor the migration of birds breeding north of the observatory throughout the Yukon and Alaska. Migration monitoring methods at ACBO follow procedures recommended by the North American Migration Monitoring Council and are similar to methods used elsewhere (Wojnowski et al 2000, Gahbauer and Hudson 2004). This protocol provides a description of field procedures currently in practice at ACBO. It is intended that this protocol should enable personnel, who are unfamiliar with the site, to collect data that are consistent with current procedures.

This document is intended to develop a field protocol for the operation of ACBO with the possibility of revisions to be made should additional components (e.g. owl banding, species specific monitoring using call playback) be added to the protocol in the future.

2.0 Objectives

The primary objectives of Albert Creek Bird Observatory are as follows:

- Collect data to allow for trend analysis of landbird populations in the southeast Yukon based on the collection of migration monitoring data.
- Collect baseline data on the distribution and migration timing of all bird species in the south-central Yukon.
- Provide an opportunity for the public (especially students) to learn about the birdlife of the Yukon, their migration habits and ornithological data collection.

A secondary objective of the observatory is to document trends in populations of shorebirds, waterbirds and waterfowl based on the collection of migration monitoring data.

High priority landbird species for monitoring at Albert Creek are shown in Table 1. Species prioritization follows that of Badzinski and Francis (2000). Species shown in **bold** are those which meet the minimum criteria in Badzinski and Francis (2000) for species trend analysis; at least 10 individuals are observed on a least 5 days per year. Such prioritization currently does not exist for other groups of birds including waterfowl, waterbirds and raptors.

Table 1. Priority landbird species for monitoring at Albert Creek Bird Observatory (not that there are no priority ‘E’ and ‘F’ species which occur regularly at ACBO).

| Priority ‘A’ | Priority ‘B’ | Priority ‘C’ | Priority ‘D’ |
|-------------------------------|------------------------------|----------------------------|------------------------|
| Alder Flycatcher | American Tree Sparrow | American Redstart | American Crow |
| American Pipit | Boreal Chickadee | Bank Swallow | American Robin |
| Bay-breasted Warbler | Bohemian Waxwing | Barn Swallow | Black-capped Chickadee |
| Blackpoll Warbler | Common Redpoll | Black-and-white Warbler | Belted Kingfisher |
| Cape May Warbler | Dark-eyed Junco | Blue-headed Vireo | Cedar Waxwing |
| Gray-cheeked Thrush | Fox Sparrow | Chipping Sparrow | Hermit Thrush |
| Lincoln’s Sparrow | Golden-crowned Sparrow | Cliff Swallow | Northern Flicker |
| Magnolia Warbler | Lapland Longspur | Common Nighthawk | Pine Siskin |
| Northern Waterthrush | Myrtle Warbler | Common Yellowthroat | Purple Finch |
| Orange-crowned Warbler | Northern Shrike | Dusky Flycatcher | Red-breasted Nuthatch |
| Savannah Sparrow | Pine Grosbeak | Hammond’s Flycatcher | Red-winged Blackbird |
| Swainson’s Thrush | Ruby-crowned Kinglet | Least Flycatcher | |
| Tennessee Warbler | Rusty Blackbird | Olive-sided Flycatcher | |
| Wilson’s Warbler | Swamp Sparrow | Townsend’s Warbler | |
| Yellow-bellied Flycatcher | Varied Thrush | Tree Swallow | |
| Yellow-bellied Sapsucker | White-crowned Sparrow | Violet-green Swallow | |
| | White-throated Sparrow | Western Tanager | |
| | White-winged Crossbill | Western Wood-Pewee | |
| | | Yellow Warbler | |

- A. Species with <50% of North American (Canada and USA only) breeding range covered by BBS, and <60% of their winter range in USA and Canada.
- B. Species with <50% of North American breeding range covered by BBS, but >60% of their winter range in the USA and Canada.
- C. Species with <60% of their Canadian and Alaskan breeding range (but >50% of North American range) covered by BBS, but >60% of their winter range in USA and Canada.
- D. Species with <60% of their Canadian and Alaskan breeding range (but >50% of North American range) cover by BBS, but >60% of their winter range in USA and Canada.
- E. Species with >60% of both their Canadian and North American breeding range covered by BBS, and <60% of their winter range in USA and Canada.
- F. Species with >60% of both their Canadian and North American breeding range covered by BBS, and >60% of their winter range in USA and Canada.

3.0 Migration Monitoring Methods

3.1 Count Area

Albert Creek Bird Observatory is located in the Liard River valley and is located along the eastern margin of the Loon Lake wetland complex. The site is access from the Rancheria Roop Loop Road which joins the Alaska Highway at Upper Liard, approximately 15 km west of the community of Watson Lake (Figure 1). The boundary of the count area is shown by a purple line in Figure 2. The count area is delimited by the following boundaries:

- To the south, the boundary is the crest of the steep hill on the road to the station.
- To the north, the boundary is the cart track which joins the main road approximately 500 m past the banding lab.
- To the east and west, the boundary is approximately 400 m either side of the main road on either side.
- In addition, the count area includes a buffer of 50 m along the cart track to the east of the banding lab to the small clearing at the end of the trail.

Any birds seen or heard by observers, who are within the count area during the count period, may be included in observations contributing to the estimated total, regardless of whether the birds are within the count area. All birds on or over the marsh, whether seen by naked eye or with the assistance of optics, are countable if the observer is within the boundaries of the count area.



Figure 1. Map of the Yukon, showing the location of ACBO.



Figure 2. Map of Albert Creek Bird Observatory count area (marked by purple line).

3.2 Count Period

The daily count period for the estimated totals starts 15 minutes before sunrise and is rounded back to the nearest quarter or an hour (ex – 520 sunrise rounds to 515 start). The duration of the daily mist-netting activities is, conditions permitting, 6 hours, from the opening of the first net to closing the first net (sunrise plus 6 hours) and shall begin 15 minutes after the start of the count period. The remaining time within the daily count period will include a 1 hour watch. The actual duration of the daily count period may vary on a day to day basis due to the 1 hour watch to be completed following the closure of the mist nets and the subsequent processing of birds captured during the closing net round. A daily schedule of the standard start and end times of the count period during the spring and fall season is shown in Appendix 1.

The standard count period timing may be altered by up to 3 hours due to unfavorable weather conditions including rain/snow or cold temperatures. When this occurs, a full scale 6 hour mist netting effort is allowed. In the event that the station is opened later than the scheduled start time and is not attributed to weather, the only effort which is considered standard is that which

extends up to the scheduled count period end. In these instances, a minimum of 3 hours of netting effort is required to be considered standard otherwise the entire effort for the particular day will be considered non-standard.

Some examples of how the standard/non-standard count periods are shown below using an example of May 5th; the predetermined count period for this date is 500 with the net opening and closing being 515 and 1115, respectively.

- At 500, the air temperature is 3°C and the count period starts at 500, nets opened at 515 and closed at 1115, birds are then processed, completed at 1230 and the count period ends at this time.
 - Standard Count Duration = 7.5 hrs
 - Non-Standard Count Duration = 0 hrs
 - Standard Mist Netting Effort = 6.0 hrs
 - Non-Standard Mist Netting Effort = 0 hrs
- At 500, the air temperature is -5°C and the count period start is delayed until 745 when the air temperature rises to 3°C, nets opened at 800 and closed at 1400, birds are then processed, completed at 1500 and the count period ends at this time.
 - Standard Count Duration = 7.0 hrs
 - Non-Standard Count Duration = 0 hrs
 - Standard Mist Netting Effort = 6.0 hrs
 - Non-Standard Mist Netting Effort = 0 hrs
- At 500, the air temperature is 3°C and the count period starts at 500, nets opened at 515 and closed at 1315, birds of the 1115 processed and completed at 1200. Birds captured in the 1315 net closing round completed, bird processing completed at 1400 and the count period ends at this time.
 - Standard Count Duration = 7.0 hrs
 - Non-Standard Count Duration = 2.0 hrs
 - Standard Mist Netting Effort = 6.0 hrs
 - Non-Standard Mist Netting Effort = 2.0 hrs

3.2.1 Spring Count Timing

The core timing of the standardized fall count period will be April 20 to June 7. Should additional resources be available and weather conditions favorable to allow for an extended season, the standardized protocols will be utilized to operate the observatory before and/or after the April 20 to June 7 period.

3.2.2 Fall Count Timing

The core timing of the standardized fall count period will be July 23 to September 23. Should additional resources be available and weather conditions favorable to allow for an extended season, the standardized protocols will be utilized to operate the observatory before and/or after the July 23 to September 23 period.

3.3 Mist Netting

One qualified bander must be designated as the bander-in-charge (BIC) at all times. The BIC is responsible for ensuring that mist netting and banding is conducted safely and in accordance with this protocol. In order for any capture or banding to take place, a licensed bander **must** be on site. Further, that individual must have the Master Bander's banding permit on hand.

The standard mist netting period extends for 6 hours starting at official sunrise (rounded back to the nearest quarter of an hour; see Appendix 1). In addition to mist netting, birds may also be captured using baited ground traps during the spring season. This is done to increase captures of sparrows and blackbirds. Also effort and the resulting birds captured with the ground traps are considered non-standard and must be recorded as such on the data sheets.

3.4 Operating Guidelines

3.4.1. Mist Net Array

All mist nets used should be 30 mm, black mesh, 75d/2 ply thread, and tethered. All nets are set on guyed, 3 m high poles.

The standard mist net array for the spring and fall seasons is shown in Figure 3. Mist net specifications are detailed in Table 2. In addition to these nets, non-standard nets are allowed must be indicated as such on all effort and species estimated total sheets. For example, nets may be useful to target specific species (such as Rusty Blackbird) or to test innovative capture techniques such as canopy nets.

Table 2. ACBO mist net specifications.

| Net # | Length | Height | # of Panels | CF |
|-------|--------|--------|-------------|-----|
| 1 | 12 m | 2.75 m | 4 | 1 |
| 2 | 12 m | 2.75 m | 4 | 1 |
| 3 | 12 m | 2.75 m | 4 | 1 |
| 4 | 12 m | 2.75 m | 4 | 1 |
| 5 | 12 m | 2.75 m | 4 | 1 |
| 21 | 12 m | 2.75 m | 4 | 1 |
| 22 | 18 m | 2.75 m | 4 | 1.5 |
| 24 | 12 m | 2.75 m | 4 | 1 |
| 25 | 12 m | 2.75 m | 4 | 1 |
| 26 | 18 m | 2.75 m | 4 | 1.5 |
| 6 | 12 m | 2.75 m | 4 | 1 |
| 7 | 12 m | 2.75 m | 4 | 1 |
| 8 | 12 m | 2.75 m | 4 | 1 |
| 9 | 12 m | 2.75 m | 4 | 1 |
| 23 | 12 m | 2.75 m | 4 | 1 |
| 10 | 12 m | 2.75 m | 4 | 1 |
| 11 | 12 m | 2.75 m | 4 | 1 |
| 12 | 12 m | 2.75 m | 4 | 1 |
| 13 | 12 m | 2.75 m | 4 | 1 |
| 14 | 12 m | 2.75 m | 4 | 1 |
| 27 | 12 m | 2.75 m | 4 | 1 |
| 15 | 12 m | 2.75 m | 4 | 1 |
| 16 | 12 m | 2.75 m | 4 | 1 |
| 17 | 12 m | 2.75 m | 4 | 1 |
| 18 | 18 m | 2.75 m | 4 | 1.5 |
| 19 | 12 m | 2.75 m | 4 | 1 |
| 20 | 12 m | 2.75 m | 4 | 1 |

CF = Correction Factor. To determine net hours, a 12 meter - 4 panel net is counted as 1 net and an 18 m – 4 panel net is counted as 1.5 net.

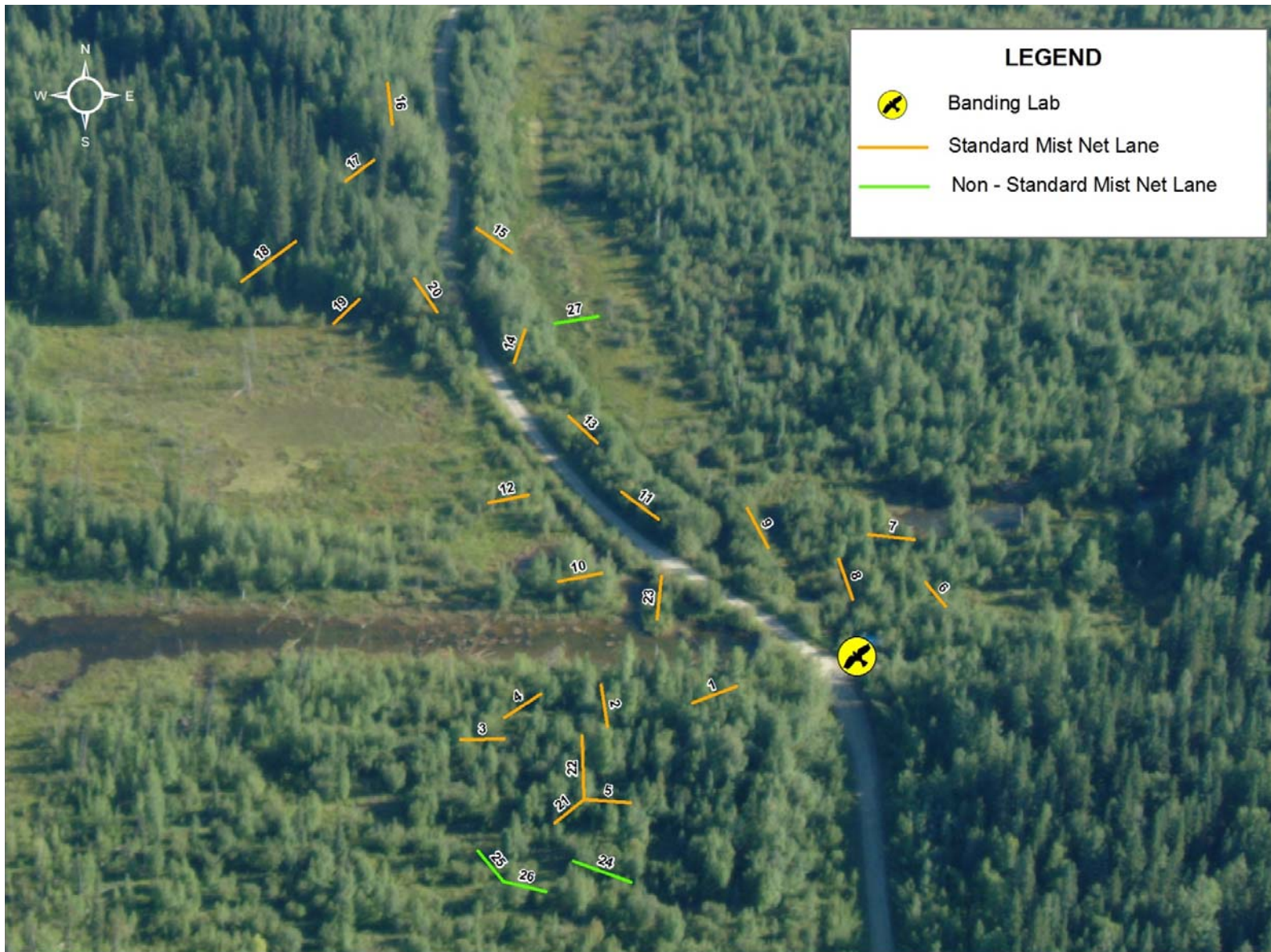


Figure 3. ACBO mist net array.

A total of 23 standard mist nets may be used on a daily basis (see Table 2). The opening and closing of nets shall be conducted in the same order each day and should progress in the following order:

- The net loop which ends at nets 3 and 4,
- The net loop which includes nets 6, 7 and 8
- The nets along the road from net 9 and 23 to net 16, then along the trail towards nets 18 and 19 and finishing at 20.

The number of nets used on a daily basis shall be determined by a number of factors including; number of qualified personnel onsite, bird activity and weather. The core group of 13 nets which shall be used on a daily basis as conditions allow include the following; 1, 2, 3, 4, 6, 7, 8, 9, 23, 10, 11, 12 and 13. Additional mist nets should be opened when conditions allow and should be done so at the discretion of the BIC. In the advent of unfavorable weather or a backlog of birds, all mist nets should be closed until the backlog of birds is processed or the weather improves. Should birds be released unbanded due to an excessive backlog of birds or other reason, the number of individuals should be recorded as “obs” on the daily log sheet. In the event that this occurs, a comment should also be made in the daily narrative as to the number and species released unbanded.

Only the standard nets should be operated during the standard period. Exceptions may be made in order to catch and document a rare bird or where the trapping involves non-target species (e.g. shorebirds, waterfowl) and does not affect the standard program. Birds caught during the standard period in non-standardized nets or traps (e.g. shorebird trap, by hand, etc.) must be denoted as NSB (non-standard banding) in the comments column on the banding sheets. These birds should also be included in the NSB – Band column of the log sheets.

Additional passerine netting after the normal closure time may be done at the discretion of the bander-in-charge. New bandings and recaptures outside of the standard Banding Period are denoted as NSB on the banding/recapture data sheets, respectively and entered into the NSB Band and NSB Recap columns of the daily log sheet. Any non-standard netting or trapping effort should be recorded on the daily log sheet, even if no birds are captured.

The use of bird seed within the count area is allowed only in the baited ground traps (spring only). Other means of attracting birds to the count area are not permitted with the following exceptions:

- Nocturnal audio-luring of owls is permitted during testing of the site for monitoring owls.

Should either of the above activities prove to be feasible at ACBO, future refinements to this protocol will be made.

3.4.2 Banding

All banding shall be conducted in adherence to the North American Bird Banding Manual (Gustafson et al 1997) and all aging and sexing of birds shall be made using the Identification Guide to the Identification Guide to North American Birds (Pyle 1997). Refer to Appendix 2 (field manual) for additional detail regarding the collection of banding data.

The safety of birds should be utmost importance during the mist netting and banding activities at TLBO.

Should any birds show signs of excessive stress upon extraction, they should be released immediately at the net and recorded within the “Obs” column of the daily log sheet. In the event that this occurs, a comment should also be made in the daily narrative as to the number and species released unbanded.

Data sheets to be used include the following: Original Banding Sheet, Recapture Sheet and Molt Sheet (see Appendix 3).

3.4.3 Visual Migration Counts

Currently, there is no protocol in place to conduct visual migration counts at ACBO; however, such counts may be conducted when conditions allow. In the event that watches are conducted, the duration of the counts and the primary observed shall be recorded. In the event that counts of an extended duration are conducted, the effort and birds observed should be split into one hour segments beginning/ending at the top of the hours. Any birds seen on visual counts shall be recorded in the standard of non-standard “VIS” column on the log sheets.

Any incidental visual migrants observed (such as swans, geese or cranes) shall be recorded in the standard of non-standard “Oth VIS” column on the log sheet. All visual migrants recorded shall be collected independently of other survey / banding activities at the station. In other words, all birds classified as “VIS” or “Oth VIS” cannot be recorded in other Estimated Totals categories.

To assign individual birds or flocks of birds as visual migrants (vis) , the observer is required to use reasonable judgment, however; the following guidelines will aid in making the determination.

- Any birds flying over the site without stopping shall be considered migrants (this is typically in a northward direction in spring and southward direction in fall but may also be in other directions).

- In the case of small passerines, individuals seen moving through the vegetation at a fairly steady pace without prolonged periods of stopover shall be considered migrants.
- Birds (typically small passerines such as warblers) observed landing at the site, and leaving shortly after shall be considered migrants despite stopping briefly.
- Any birds observed “dropping in” to the site and not leaving shortly after shall not be considered migrants.

Unidentified flycatchers, thrushes, sparrows, vireos and warblers should be recorded as such while conducting the visual counts. In the case of similar species in which a species specific identification cannot be determined, it is acceptable to record them as a combination of species. An example would be American Robin / Varied Thrush which in some instances can be difficult to identify at a distance. On the visual count data sheet, the number of birds observed should be recorded as visual migrants (“VIS”).

3.4.4 Census Legs

To increase the collection of bird observations within the count area, a series of census legs are surveyed within the count area. Each leg is intended to take 10 to 15 minutes and are to be completed whenever adequate personnel are present onsite (as allowed by bird activity). All birds counted on the census routes shall be recorded on the census field data sheet and summarized into the “Census” column of the ET sheets. Descriptions of each census leg is described below:

- Leg #1
 - Starts at net 23 and follows the road to net 20, then follows the trail by nets 19, 17, 16, and finally the road back to net 15. At the start point, on your left, try to concentrate on the birds north of the main slough and, on your right, the nearby ones that are between the road and the slough on that side. Later count everything but try not to double-count near nets 20 and 15.
- Leg #2
 - Starts at the banding table, follows the net 6, 7, 8 loop where try count the birds north of the spruce forest trail and on net 8 side of the slough. Along the trail to the gauntlet try to only count birds on that side of the main slough. It then goes to the south (left) end of 25/26. From there follow green flagging west to the marsh edge. Finish at double (or triple) flagging. This leg is little wet near the end so rubber boots are recommended.
- Leg #3
 - Starts at the green flagging (on the right side of road as seen from the banding table) about 50 meters from the banding table. This leg follows the road to the top of the hill

and is meant to be walked both ways (there and back) in that 15 minutes. The turn around point is at double green flagging (on the right side).

- Leg #4
 - Also intended to be walked both ways and it follows the spruce forest trail. The start point is where the first big spruce trees are on the left side (not flagged) and the turn around point is at the two flags, one on each side of the trail.
- Leg #5
 - Starts at net 16 turn-off and goes north to the green flagging at the road split, and then comes back.

3.4.5 Other Observations

All birds that are observed during the count period, but are not included in the visible migration counts should be recorded in the other observations column (“Obs”) in the daily log. Opportunistic sightings of birds observed in migration shall also be included separately and recorded as “Oth Vis” in the daily log.

These include birds observed during net-rounds, and any other observations from within the count area outside of the visual migration watches. Other observations should be noted by the personnel onsite on the appropriate daily log sheet (Appendix 4).

3.5 Estimated Totals (ETs)

The Estimated Total (ET) is the best estimate of the number of individuals of each species detected in the count area during the standard count period. To arrive at the ETs, all personnel involved in the respective day’s activities shall be involved to help reduce the possibility of double counting individual birds.

3.6 Overall Coverage Codes

Each day, an overall coverage code, ranging from 0 to 5, is assigned based on the actual effort during the count period (6.5 hours after sunrise) that day. The coverage code takes into

consideration the number of observers and their skill levels (Table 3), as well as the overall counting and mist netting effort. The coverage codes and the criteria used to assign them, are described in Table 4. For the code to be assigned, **all the listed criteria must be met**. The aim should be to achieve Code 3 coverage as frequently as possible.

Table 3. Observer skill levels.

| Class | Criteria |
|-------|--|
| 1 | Able to identify over 90% of birds encountered. |
| 2 | Able to identify 75 to 90% of birds encountered. |
| 3 | Able to identify 50 to 75% of birds encountered. |
| 4 | Able to identify less than 50% of birds encountered. |

Table 4. Criteria for assigning daily coverage codes.

| Code | Coverage | Criteria |
|------|-------------|--|
| 0 | No coverage | |
| 1 | Casual | Casual observations and/or banding. Very limited or no visible migration count |
| 2 | Poor | At least 1 Class 1 or 2 observer active throughout count period; no or limited mist netting effort. |
| 3 | Fair | At least 1 Class 1 or 2 observer active throughout count period; mist netting may have been restricted by weather (maximum 100 corrected net hrs). |
| 4 | Good | At least 1 Class 1 or 2 observer active throughout count period; at least 100 corrected net hrs unless reduced due to backlog of birds. |
| 5 | Excellent | At least 1 Class 1 and 1 Class 2 observers active throughout count period; over 100 corrected net hrs unless reduced due to backlog of birds. |

3.7 Additional Observations

The daily species total (DST) reflects the total number of birds of each species seen or heard in the area during the course of the entire day. The DST is determined by combining all birds encountered during the standard (Estimated Total) and non-standard monitoring data. Although not as standardized as the daily ET, the daily species total serves to record species detected outside the daily count period and also makes use of observations made later into the day by the observatory's personnel and volunteers.

3.8 Data Entry

The ACBO standard is to that all data (including effort, banding and ET data) will be entered into a Microsoft Excel / Access database. All applicable banding data will be provided to Environment Canada's Bird Banding Office on a yearly basis in a timely manner. Aside from data submission to Environment Canada to fulfill permit obligations, all relevant data will be provided to the Canadian Wildlife Service (Whitehorse) and the Yukon Bird Club for inclusion in seasonal bird sighting summaries, etc.

3.9 Personnel

At least two qualified people are required to obtain excellent coverage (code 4, Table 4) at ACBO, however; this protocol has been developed to allow for a lone qualified individual to achieve fair to good coverage during periods of favorable weather. It is understood that more than one qualified individual onsite would be the preferred option as is typically the case at other bird observatories. However, due to the relatively low number of qualified personnel in the Yukon, additional qualified personnel cannot be assured. Should the observatory be staffed by a lone individual, it is essential that the individual be a qualified and competent bander, and preferably also with the identification skills to conduct migration watches.

All new personnel must familiarize themselves with the protocol. The BIC, generally the most experienced bander at the station, is responsible for overseeing all aspects of operations including trapping and data recording. Training and supervision of new personnel should be done solely by the BIC or by a person designated by him/her. All persons are expected to

participate in the routine maintenance of the station. The station manager is typically responsible for station setup/closure and data management/reporting duties.

6.0 Vegetation Management

???

7.0 Literature Cited

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Appendix 1
SPRING AND FALL DAILY COUNT TIMING

| Date | Sunrise | Count Period Start Time | Mist Net Open | Mist Net Close | Count Period End (Approximate) |
|--------|---------|-------------------------|---------------|----------------|--------------------------------|
| 18-Apr | 609 | 545 | 600 | 1200 | 1330 |
| 19-Apr | 606 | 545 | 600 | 1200 | 1330 |
| 20-Apr | 603 | 545 | 600 | 1200 | 1330 |
| 21-Apr | 600 | 545 | 600 | 1200 | 1330 |
| 22-Apr | 558 | 530 | 545 | 1145 | 1345 |
| 23-Apr | 555 | 530 | 545 | 1145 | 1345 |
| 24-Apr | 552 | 530 | 545 | 1145 | 1345 |
| 25-Apr | 549 | 530 | 545 | 1145 | 1345 |
| 26-Apr | 546 | 530 | 545 | 1145 | 1345 |
| 27-Apr | 543 | 515 | 530 | 1130 | 1330 |
| 28-Apr | 540 | 515 | 530 | 1130 | 1330 |
| 29-Apr | 537 | 515 | 530 | 1130 | 1330 |
| 30-Apr | 535 | 515 | 530 | 1130 | 1330 |
| 01-May | 532 | 515 | 530 | 1130 | 1330 |
| 02-May | 530 | 515 | 530 | 1130 | 1330 |
| 03-May | 526 | 500 | 515 | 1115 | 1315 |
| 04-May | 524 | 500 | 515 | 1115 | 1315 |
| 05-May | 521 | 500 | 515 | 1115 | 1315 |
| 06-May | 519 | 500 | 515 | 1115 | 1315 |
| 07-May | 516 | 500 | 515 | 1115 | 1315 |
| 08-May | 514 | 445 | 500 | 1100 | 1300 |
| 09-May | 512 | 445 | 500 | 1100 | 1300 |
| 10-May | 510 | 445 | 500 | 1100 | 1300 |
| 11-May | 507 | 445 | 500 | 1100 | 1300 |
| 12-May | 504 | 445 | 500 | 1100 | 1300 |
| 13-May | 501 | 445 | 500 | 1100 | 1300 |
| 14-May | 459 | 430 | 445 | 1045 | 1245 |
| 15-May | 457 | 430 | 445 | 1045 | 1245 |
| 16-May | 455 | 430 | 445 | 1045 | 1245 |
| 17-May | 452 | 430 | 445 | 1045 | 1245 |
| 18-May | 449 | 430 | 445 | 1045 | 1245 |
| 19-May | 447 | 430 | 445 | 1045 | 1245 |
| 20-May | 445 | 430 | 445 | 1045 | 1245 |
| 21-May | 443 | 415 | 430 | 1030 | 1230 |
| 22-May | 441 | 415 | 430 | 1030 | 1230 |
| 23-May | 439 | 415 | 430 | 1030 | 1230 |
| 24-May | 437 | 415 | 430 | 1030 | 1230 |
| 25-May | 435 | 415 | 430 | 1030 | 1230 |
| 26-May | 433 | 415 | 430 | 1030 | 1230 |
| 27-May | 431 | 415 | 430 | 1030 | 1230 |
| 28-May | 429 | 400 | 415 | 1015 | 1215 |
| 29-May | 427 | 400 | 415 | 1015 | 1215 |
| 30-May | 425 | 400 | 415 | 1015 | 1215 |
| 31-May | 424 | 400 | 415 | 1015 | 1215 |
| 01-Jun | 423 | 400 | 415 | 1015 | 1215 |
| 02-Jun | 421 | 400 | 415 | 1015 | 1215 |

| Date | Sunrise | Count Period Start Time | Mist Net Open | Mist Net Close | Count Period End (Approximate) |
|-------------|----------------|--------------------------------|----------------------|-----------------------|---------------------------------------|
| 03-Jun | 420 | 400 | 415 | 1015 | 1215 |
| 04-Jun | 419 | 400 | 415 | 1015 | 1215 |
| 05-Jun | 417 | 400 | 415 | 1015 | 1215 |
| 06-Jun | 416 | 400 | 415 | 1015 | 1215 |
| 07-Jun | 415 | 400 | 415 | 1015 | 1215 |
| 08-Jun | 414 | 345 | 400 | 1000 | 1200 |
| 09-Jun | 413 | 345 | 400 | 1000 | 1200 |
| 10-Jun | 412 | 345 | 400 | 1000 | 1200 |

| Date | Sunrise | Count Period Start Time | Mist Net Open | Mist Net Close | Count Period End (Approximate) |
|--------|---------|-------------------------|---------------|----------------|--------------------------------|
| 23-Jul | 454 | 430 | 445 | 1045 | 1215 |
| 24-Jul | 456 | 430 | 445 | 1045 | 1215 |
| 25-Jul | 459 | 430 | 445 | 1045 | 1215 |
| 26-Jul | 501 | 445 | 500 | 1100 | 1230 |
| 27-Jul | 503 | 445 | 500 | 1100 | 1230 |
| 28-Jul | 505 | 445 | 500 | 1100 | 1230 |
| 29-Jul | 508 | 445 | 500 | 1100 | 1230 |
| 30-Jul | 510 | 445 | 500 | 1100 | 1230 |
| 31-Jul | 512 | 445 | 500 | 1100 | 1230 |
| 01-Aug | 515 | 500 | 515 | 1115 | 1245 |
| 02-Aug | 517 | 500 | 515 | 1115 | 1245 |
| 03-Aug | 519 | 500 | 515 | 1115 | 1245 |
| 04-Aug | 522 | 500 | 515 | 1115 | 1245 |
| 05-Aug | 524 | 500 | 515 | 1115 | 1245 |
| 06-Aug | 527 | 500 | 515 | 1115 | 1245 |
| 07-Aug | 529 | 500 | 515 | 1115 | 1245 |
| 08-Aug | 532 | 515 | 530 | 1130 | 1300 |
| 09-Aug | 534 | 515 | 530 | 1130 | 1300 |
| 10-Aug | 536 | 515 | 530 | 1130 | 1300 |
| 11-Aug | 539 | 515 | 530 | 1130 | 1300 |
| 12-Aug | 541 | 515 | 530 | 1130 | 1300 |
| 13-Aug | 544 | 515 | 530 | 1130 | 1300 |
| 14-Aug | 546 | 530 | 545 | 1145 | 1315 |
| 15-Aug | 549 | 530 | 545 | 1145 | 1315 |
| 16-Aug | 551 | 530 | 545 | 1145 | 1315 |
| 17-Aug | 553 | 530 | 545 | 1145 | 1315 |
| 18-Aug | 556 | 530 | 545 | 1145 | 1315 |
| 19-Aug | 558 | 530 | 545 | 1145 | 1315 |
| 20-Aug | 601 | 545 | 600 | 1200 | 1330 |
| 21-Aug | 603 | 545 | 600 | 1200 | 1330 |
| 22-Aug | 605 | 545 | 600 | 1200 | 1330 |
| 23-Aug | 608 | 545 | 600 | 1200 | 1330 |
| 24-Aug | 610 | 545 | 600 | 1200 | 1330 |
| 25-Aug | 613 | 545 | 600 | 1200 | 1330 |
| 26-Aug | 615 | 600 | 615 | 1215 | 1345 |
| 27-Aug | 617 | 600 | 615 | 1215 | 1345 |
| 28-Aug | 620 | 600 | 615 | 1215 | 1345 |
| 29-Aug | 622 | 600 | 615 | 1215 | 1345 |
| 30-Aug | 625 | 600 | 615 | 1215 | 1345 |
| 31-Aug | 627 | 600 | 615 | 1215 | 1345 |
| 01-Sep | 629 | 600 | 615 | 1215 | 1345 |
| 02-Sep | 632 | 615 | 630 | 1230 | 1400 |
| 03-Sep | 634 | 615 | 630 | 1230 | 1400 |
| 04-Sep | 636 | 615 | 630 | 1230 | 1400 |
| 05-Sep | 639 | 615 | 630 | 1230 | 1400 |
| 06-Sep | 641 | 615 | 630 | 1230 | 1400 |

| Date | Sunrise | Count Period Start Time | Mist Net Open | Mist Net Close | Count Period End (Approximate) |
|-------------|----------------|--------------------------------|----------------------|-----------------------|---------------------------------------|
| 07-Sep | 644 | 615 | 630 | 1230 | 1400 |
| 08-Sep | 646 | 630 | 645 | 1245 | 1415 |
| 09-Sep | 648 | 630 | 645 | 1245 | 1415 |
| 10-Sep | 651 | 630 | 645 | 1245 | 1415 |
| 11-Sep | 653 | 630 | 645 | 1245 | 1415 |
| 12-Sep | 655 | 630 | 645 | 1245 | 1415 |
| 13-Sep | 658 | 630 | 645 | 1245 | 1415 |
| 14-Sep | 700 | 645 | 700 | 1300 | 1430 |
| 15-Sep | 702 | 645 | 700 | 1300 | 1430 |
| 16-Sep | 705 | 645 | 700 | 1300 | 1430 |
| 17-Sep | 707 | 645 | 700 | 1300 | 1430 |
| 18-Sep | 710 | 645 | 700 | 1300 | 1430 |
| 19-Sep | 712 | 645 | 700 | 1300 | 1430 |
| 20-Sep | 714 | 645 | 700 | 1300 | 1430 |
| 21-Sep | 717 | 700 | 715 | 1315 | 1445 |
| 22-Sep | 719 | 700 | 715 | 1315 | 1445 |
| 23-Sep | 721 | 700 | 715 | 1315 | 1445 |

Appendix 2
FIELD MANUAL

Albert Creek Bird Observatory
Field Manual

Table of Contents

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1.0 Introduction

The purpose of this field manual is to provide the field crew members of ACBO with a guide with which to collect data during the spring and fall migration seasons. This manual will deal primarily with the daily log sheets and the banding sheets to explain how the data shall be collected and scribed onto the respective data sheets.

2.0 Data Collection

2.1 Daily Log Sheet

The personnel and visitors section shall be filled out in the field to ensure accurate times are recorded. Additionally, all times shall be recorded to the nearest 5 minute interval.

The following outlines the scoring system used to collect weather data.

Wind Direction – record as N, NE, E, SE, S, SW, W or NW prevailing wind direction

Wind Strength – shall be recorded using the Beaufort Scale as outlined in the table below

| Scale | Ground Speed (km/h) | Description | Specifications |
|-------|---------------------|-----------------|--|
| 0 | 0 – 2 | Calm | Smoke rises vertically. |
| 1 | 2 – 6 | Light air | Direction of wind shown by smoke drift. |
| 2 | 6 – 11 | Light breeze | Wind felt on face, leaves rustle. |
| 3 | 10 – 19 | Gentle breeze | Leaves and small twigs in constant motion. |
| 4 | 19 – 30 | Moderate breeze | Raises dust and loose paper, small branches moved. |
| 5 | 30 - 39 | Fresh breeze | Small trees in leaf begin to sway, crested wavelets form on inland waters. |
| 6 | 39 - 50 | Strong breeze | Large branches in motion, umbrellas used with difficulty. |
| 7 | 50 - 61 | Near gale | Whole trees in motion, inconvenience felt when walking into the wind. |
| 8 | 61 - 74 | Gale | Twigs break off of trees, generally impedes progress. |
| 9 | 74 - 87 | Severe gale | Slight structural damage |
| 10 | 87 - 100 | Storm | Rare inland, trees uprooted, considerable structural damage, |

Visibility – shall be recorded using the following relative measures:

- Excellent
- Good
- Poor
- Very Poor

Cloud Cover – approximation to the nearest 10%

Temperature – measured to the nearest degree

Precipitation – shall be recorded using the following codes

| | |
|-------------------------------|------------------------------------|
| 0 = None | 0 = None |
| 1 = Trace rainfall | 1S = Trace snowfall (few flurries) |
| 2 = Light rainfall (drizzle) | 2S = Light snow flurries |
| 3 = Moderate, steady rainfall | 3S = Moderate snowfall |
| 4 = Heavy Rain | 4S = Heavy snowfall |

The daily narrative should be filled out at the end of each day's activities and may include a synopsis of the day's activities including a brief synopsis of bird migration. Also to be included are any interesting notes regarding visitors or station maintenance activities.

For the mist net data sheets, all times should be recorded as accurately as possible. For the opening and closing of nets, the time the first net was open / closed shall be recorded for all corresponding nets. This will provide an accurate count of mist net effort so long as the nets are opened and closed in the same order.

On both the visual migration watch and incidental observation data sheets, all observations should be recorded as soon as possible in the tally section. And the end of the daily count, all tallies shall be summed and recorded in the appropriate box. Upon summation of the observation data, this information can be scribed on the ET species tables along with the day's banding and recapture data. Note that all observers from each day should be involved in the estimation of the day's ET data.

2.2 Banding Sheet

The following explains the methods for data collection involving the primary banding sheet.

Banders – be sure to include the full name and initials for each bander on the respective banding sheet.

Band Numbers – take extreme care to ensure the first and last band numbers are recorded correctly on the banding sheet. At the start and finish of each page, be sure to scribe the full band number legibly.

Species – record the 4 letter code for the respective species. Should the same species follow the first scribing of the species code, then do not rewrite the codes. In such instances, a line should be written through the species box to ease later data entry. An exception to this rule is the first bird of the day (on each banding sheet) which should always be rewritten regardless of whether or not the last bird of the previous day was the same species.

Net – the net number should be recorded for all birds captured. Upon extraction from the mist nets, a number pin should be placed on the bag ties from each net. After arriving at the banding location, the birds should be processed in the order of extraction. Exceptions to this rule include the capture of large birds of species which become easily stressed such as woodpeckers and kingfishers.

Age and sex – the age and sex codes should be recorded using the following coding system.

| | | |
|-------------|---------|-------------|
| 0 = Unknown | 6 = ASY | 0 = Unknown |
| 1 = AHY | 7 = TY | 4 = Male |
| 2 = HY | 8 = ATY | 5 = Female |
| 4 = L | | |
| 5 = SY | | |

For each bird, a code describing the method of aging and sexing should be recorded for all birds using the following codes.

| | |
|--------------------------|-------------------|
| 1 = Plumage | 6 = Brood Patch |
| 2 = Skull | 7 = Mouth/bill |
| 3 = Eye Color | 8 = Culmen Length |
| 4 = Wing Length | 9 = Retrice Shape |
| 5 = Cloacal Protuberance | |

Wing – the un-flattened wing length (wing chord) should be recorded in millimeters.

Weight – the weight may be recorded in grams using a digital scale with 0.1 g increments.

Fat Score – the 7 point fat scoring system should be used with the following codes

0 = None

1 = Trace

2 = Light

3 = Half

4 = Filled

5 = Bulging

6 = Greatly Bulging

7 = Excessively Bulging

Cloacal Protuberance – should a bird have a CP, the relative size of the CP should be ranked using the following criteria.

0 = None (cloaca not enlarged)

1 = Small (cloaca somewhat enlarged and noticeably swollen, shape is such that it is widest at the base and narrowest at the tip. Care should be used with this ranking as it can be difficult to ascertain.

2 = Medium (cloaca protuberance large, diameter fully as large near the tip as at the base).

3 = Large (cloaca protuberance very large with a diameter considerably larger in the middle than at the base.

Brood Patch – similar to a CP, all brood patches should be ranked using the following codes

0 = None (no brood patch)

1 = Smooth (lower breast feathers and abdomen feathers lost, some vascularization present but overall, the area is rather smooth and dark red).

2 = Vascularized (vascularization evident, some wrinkles present and some fluid under the skin giving the area a pale, opaque, pinkish color).

3 = Heavy (vascularization extreme, thickly wrinkled and much fluid under the skin. This is the maximum extent of the brood patch and is present when the bird is incubating eggs).

4 = Wrinkled (vascularization mostly has disappeared and the fluid under the skin mostly gone. The skin retains many thin, dry looking wrinkles).

5 = Molting (vascularization and fluid buildup gone, new pin feathers present).

Moult – this space is reserved for recording basic information regarding a bird’s moult using the following codes. Note that this information is supplementary and should only be recorded when time and/or bird volume allows.

B = Body
H = Head
T = Tail
W = Wing

GC = Greater Coverts
MC = Median Coverts
LC = Lesser Coverts
A = Alula

A ranking of juvenal plumage may also be recorded in the moult section using the following codes.

3 = Full (full juvenal plumage)
2 = Greater (more than half of juvenal plumage remains, mostly appears like a juvenile)
1 = Less (less than half of juvenal plumage remains)
0.5 = no juvenal plumage remaining, but formative feathers still growing in
0 = None (no juvenal plumage)

Status- the status of each bird shall be recorded using the following codes (only some of the more common codes shown). Should consecutive birds have the same status, a line should be drawn through the status box.

300 = normal wild bird, federal numbered leg band only
301 = normal wild bird, colored leg band
500 = sick, exhausted, injured, crippled or deformed with federal numbered leg band
501 = sick, exhausted, injured, crippled or deformed with colored leg band

Date – the month and day should be recorded at the top of each banding sheet and then a line should be drawn through the date boxes for each corresponding banding record.

Time – the time should be recorded as the time each respective net round was started. On each banding sheet, the first time of each net round should be recorded with a line being recorded in the time box for each bird from the net round.

Intl – the bander’s initials should be recorded for each bird banded. Be sure that the initials match the bander’s name and initials at the top of the page. Do not rewrite the bander’s initials, rather use a line in the corresponding field, except for the first bird of each day.

Trap – record the method of capture for each bird, this should typically be MN (Mist Net). Do not rewrite the trap, rather use a line in the corresponding field, except for the first bird of each day.

Tail & PP – these measurements may be recorded in special circumstances when such data may be valuable. These fields are particularly useful in terms of the *Empidonax* flycatchers.

NSB – include a checkmark in this box for all birds banded outside of the daily count period (non standard banding).

Comments – include any additional information of interest in this field.

2.3 Recapture Sheet

The methods for data collection on the recapture sheet are similar to the original recapture sheet with the following exceptions.

- Take extreme care to accurately record the full band number for all birds, especially those which are not repeats from the current season.
 - In the case of repeats, a line may be drawn beneath the portion of the previous band number with the same digits.
- The age, sex and wing length are supplemental data on the recapture sheet.

2.4 Molt Sheet

As with the recapture sheet, take care to record the band number accurately for all birds which are molt scored. To assign molt scores for each feather, use the codes in the attached diagram which uses a scoring system of 0 (old feather) to 5 (complete new feather). Also note that the scores of the primary and secondary feathers are the priority scores.

Appendix 3
BANDING SHEETS

Appendix 4
DAILY LOG SHEETS

ALBERT CREEK BIRD OBSERVATORY

| | |
|------|--|
| DATE | |
|------|--|

Daily Log Sheet

| | |
|---------------------|--|
| DAILY COVERAGE CODE | |
|---------------------|--|

| Personnel | Initials | Code | Time | Hours Onsite | |
|-----------|----------|------|------|--------------|--------------|
| | | | | Standard | Non-Standard |
| BIC- | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Visitors | Origin | Time | Total Hours |
|----------|--------|------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Weather | Count Period | | | | Synopsis |
|------------------|--------------|-----|-----|------|----------|
| | Start | Mid | End | Dusk | |
| Wind Direction | | | | | |
| Wind Strength | | | | | |
| Visibility (km) | | | | | |
| Cloud (%) | | | | | |
| Temperature (°C) | | | | | |
| Precipitation | | | | | |

| Daily Count Timing | | | | | |
|--------------------|------------------------|--------------|-----------|------------|-----|
| Designated Start | Delayed Start Due To ? | Actual Start | Nets Open | Nets Close | End |
| | | | | | |

| | |
|------------------------|--|
| Total Birds Banded | |
| Total Species Banded | |
| Total Birds Recaptured | |

| | |
|------------------------|--|
| Total Species Detected | |
| SEASON BANDED TOTAL | |

| Rare Bird Bandings / Sightings | Bird Mortalities / Injuries |
|--------------------------------|-----------------------------|
| | |

| Daily Narrative (description of migration activity, visitors, station maintenance, etc) |
|---|
| |

Mist Net & Ground Trap Effort

| | |
|------|--|
| DATE | |
|------|--|

| Net # | Net Length (m) | Standard Count Period | | | | | | | | | Non Standard Corrected Net Hrs |
|--------------|----------------|-----------------------|-------|------|-------|------|-------|-----------|-------------------|-------------------|--------------------------------|
| | | Open | Close | Open | Close | Open | Close | Total Hrs | Correction Factor | Corrected Net Hrs | |
| 1 | 12 | | | | | | | | 1 | | |
| 2 | 12 | | | | | | | | 1 | | |
| 3 | 12 | | | | | | | | 1 | | |
| 4 | 12 | | | | | | | | 1 | | |
| 5 | 12 | | | | | | | | 1 | | |
| 21 | 12 | | | | | | | | 1 | | |
| 22 | 18 | | | | | | | | 1.5 | | |
| 6 | 12 | | | | | | | | 1 | | |
| 7 | 12 | | | | | | | | 1 | | |
| 8 | 12 | | | | | | | | 1 | | |
| 9 | 12 | | | | | | | | 1 | | |
| 23 | 12 | | | | | | | | 1 | | |
| 10 | 12 | | | | | | | | 1 | | |
| 11 | 12 | | | | | | | | 1 | | |
| 12 | 12 | | | | | | | | 1 | | |
| 13 | 12 | | | | | | | | 1 | | |
| 14 | 12 | | | | | | | | 1 | | |
| 15 | 12 | | | | | | | | 1 | | |
| 16 | 12 | | | | | | | | 1 | | |
| 17 | 12 | | | | | | | | 1 | | |
| 18 | 18 | | | | | | | | 1.5 | | |
| 19 | 12 | | | | | | | | 1 | | |
| 20 | 12 | | | | | | | | 1 | | |
| 24 | 18 | | | | | | | | 1.5 | | |
| 25 | 12 | | | | | | | | 1 | | |
| 26 | 12 | | | | | | | | 1 | | |
| 27 | 12 | | | | | | | | 1 | | |
| TOTAL | | | | | | | | | | | |

| GROUND TRAP EFFORT | | | | ** Remember to separate GT captures in ET sheets ** |
|--------------------|------|-------|----------------|---|
| # OF TRAPS | OPEN | CLOSE | TOTAL TRAP HRS | |
| | | | | |

APPENDIX B – Figures

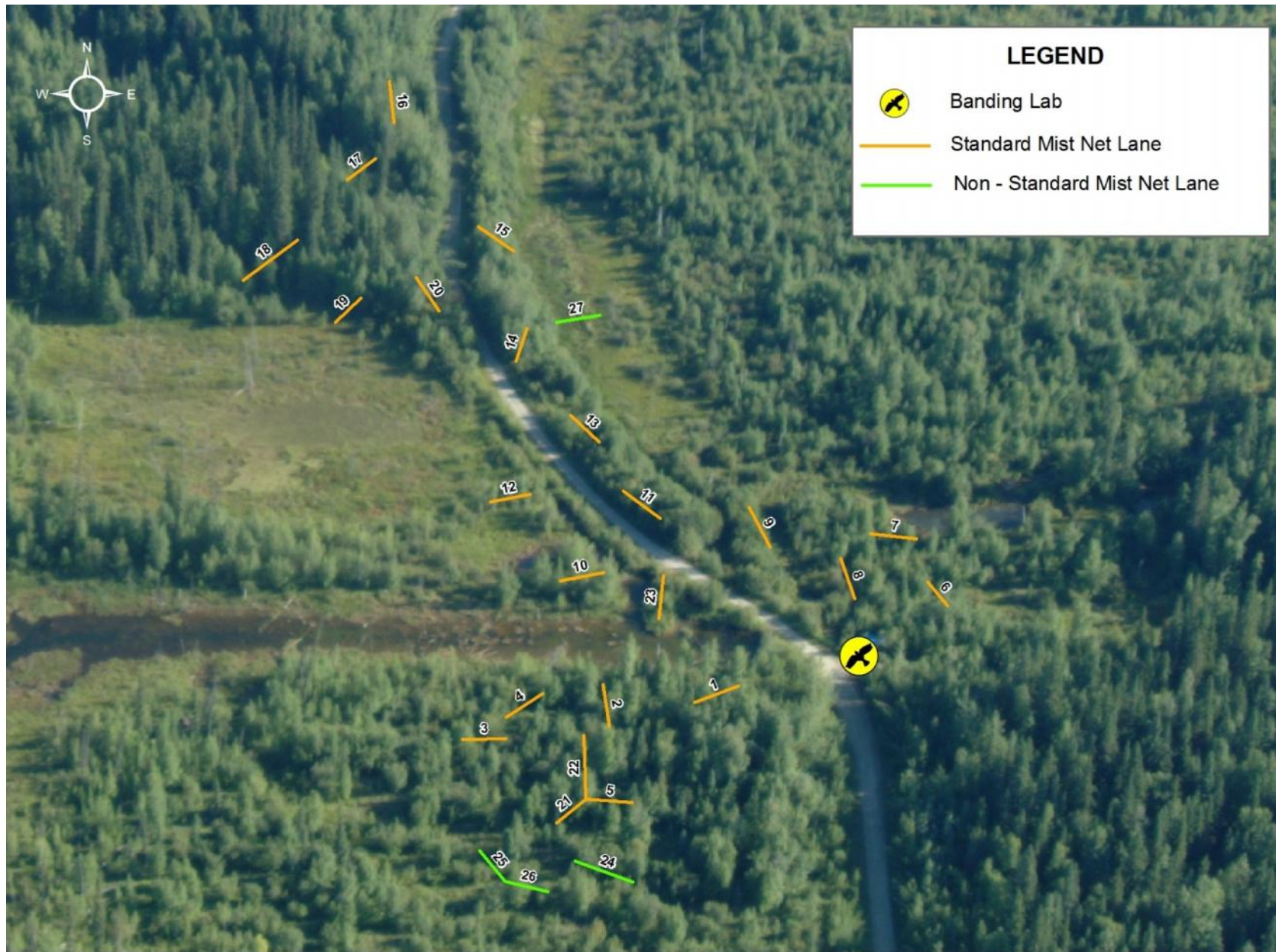


Figure 1. Overview of study area.

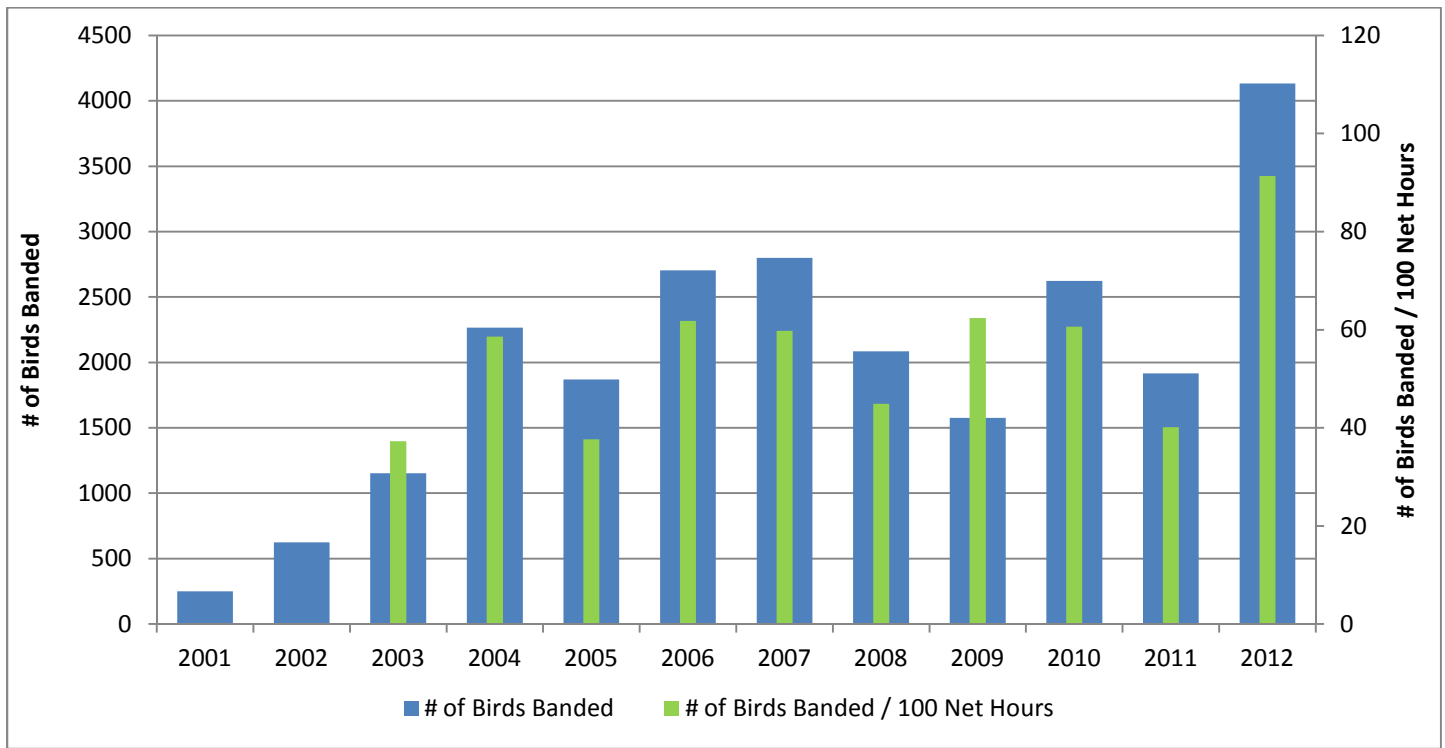


Figure 1. Summary of birds banded at Albert Creek during the spring from 2001 through to 2012.

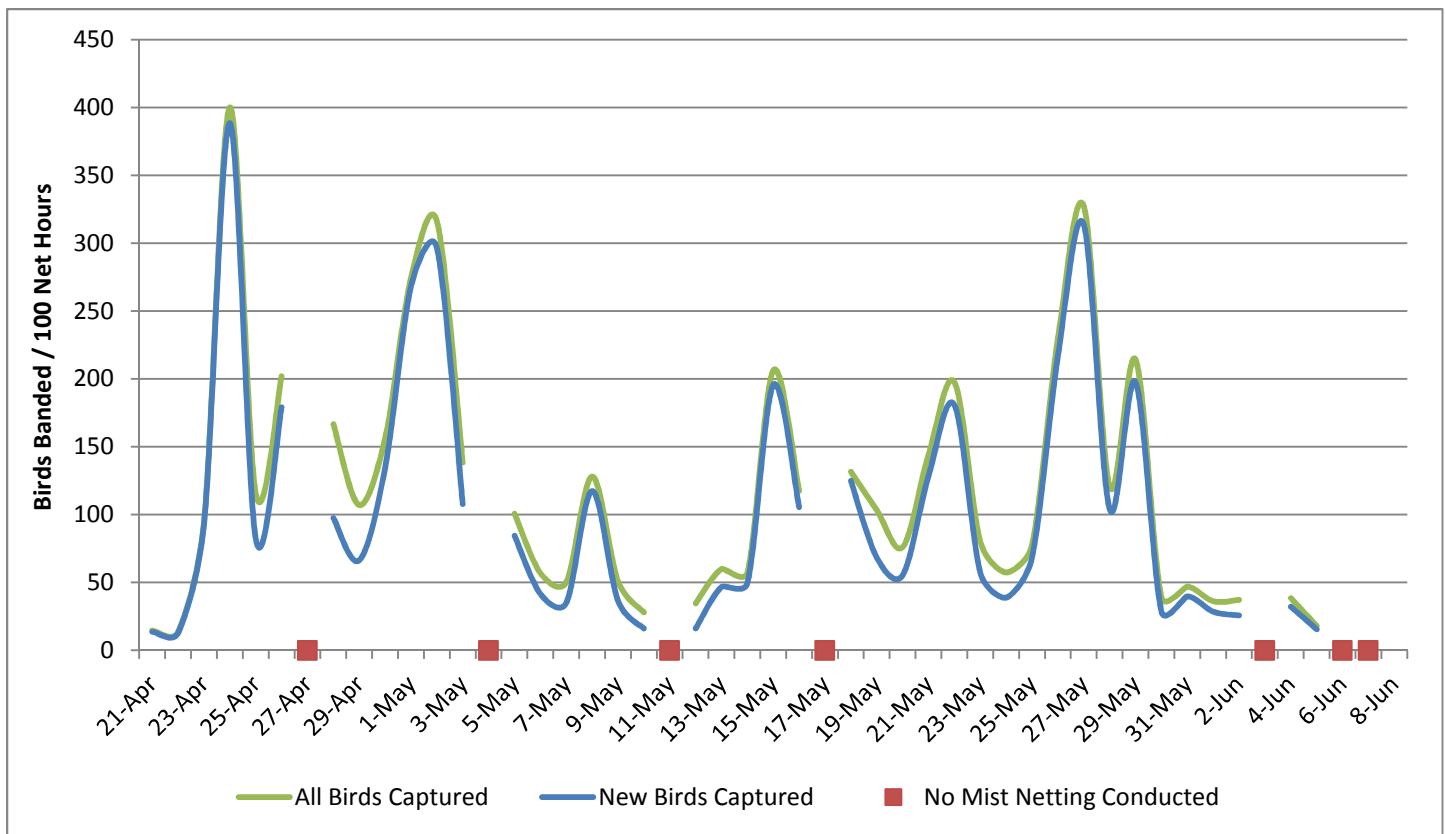


Figure 3. Summary of birds banded per 100 net hours during the spring of 2012 (does not include birds captured in ground traps).

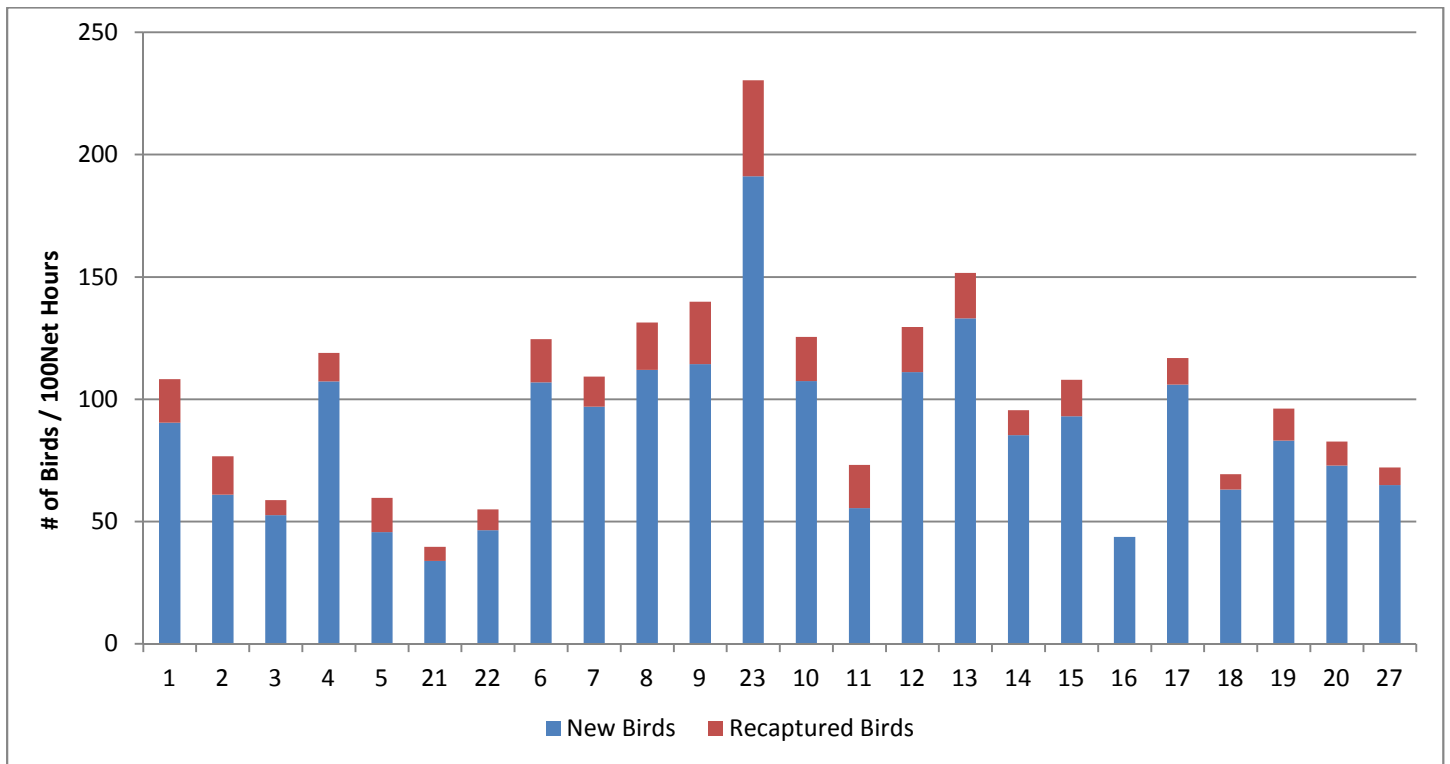


Figure 4. Birds captured per mist net during the spring of 2012.

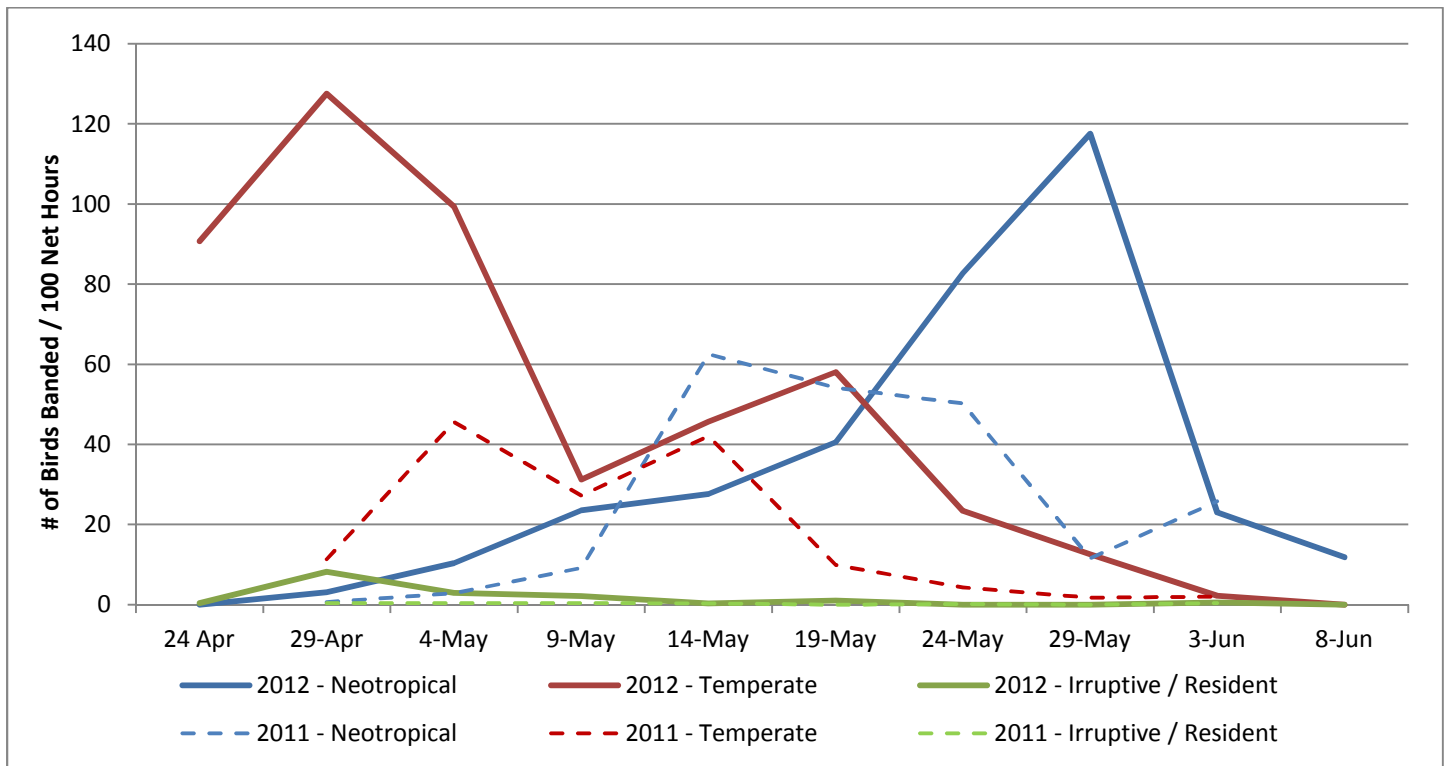


Figure 5. Migration timing for temperate, neotropical and irruptive migrants/residents banded during the spring of 2011 and 2012.

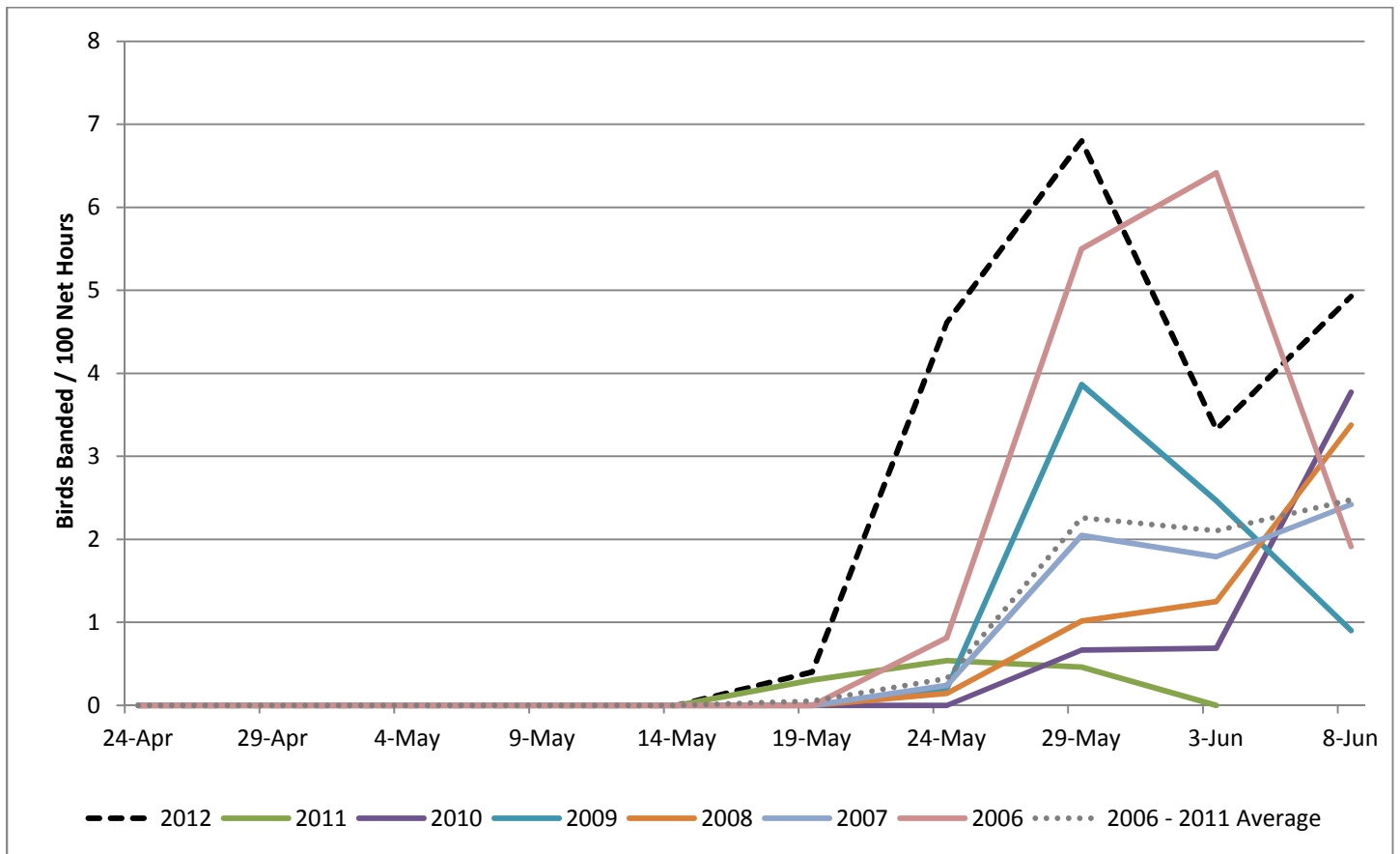


Figure 6. Alder Flycatcher spring migration timing from 2006 to 2012.

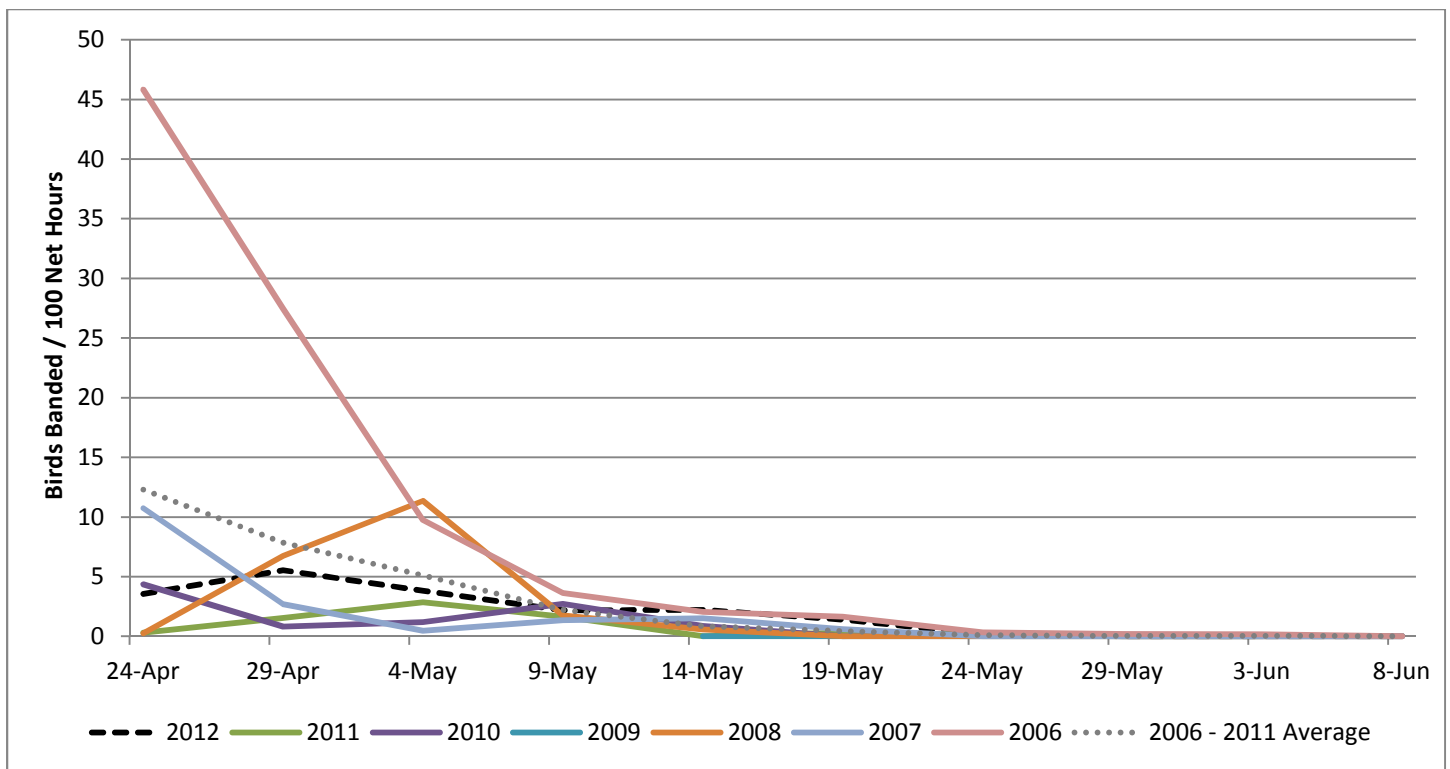


Figure 7. Ruby-crowned Kinglet spring migration timing from 2006 to 2012.

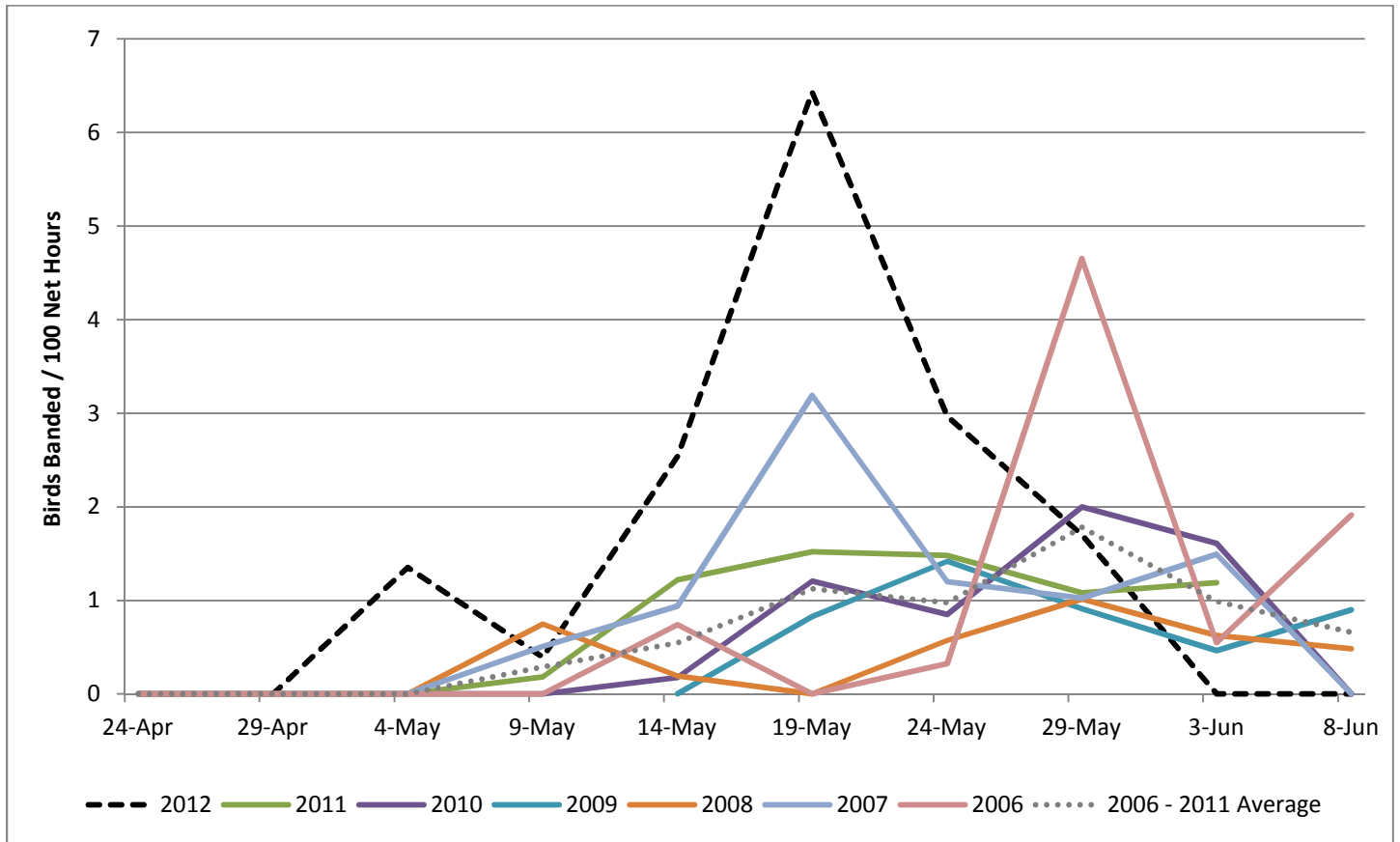


Figure 8. Swainson’s Thrush spring migration timing from 2006 to 2012.

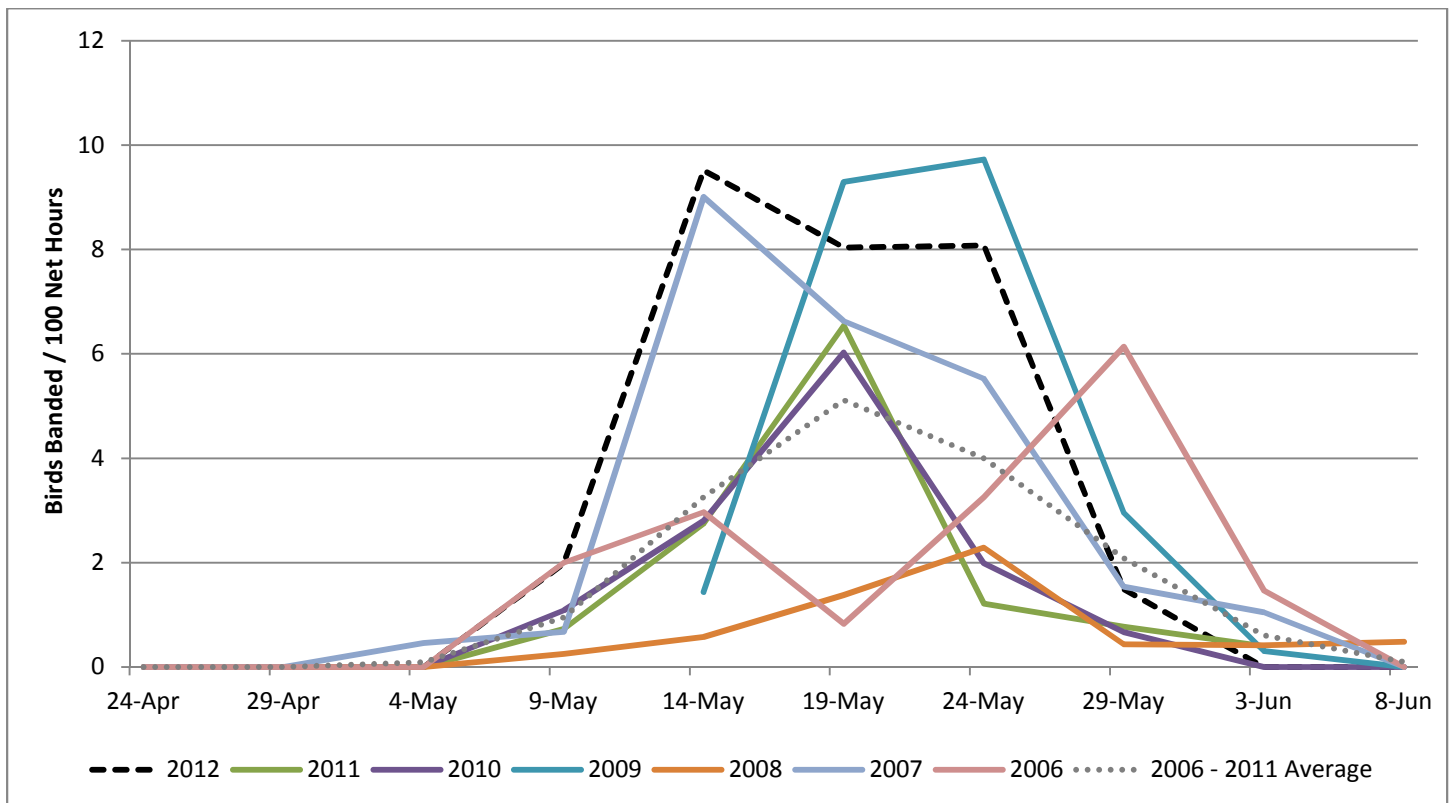


Figure 9. Northern Waterthrush spring migration timing from 2006 to 2012.

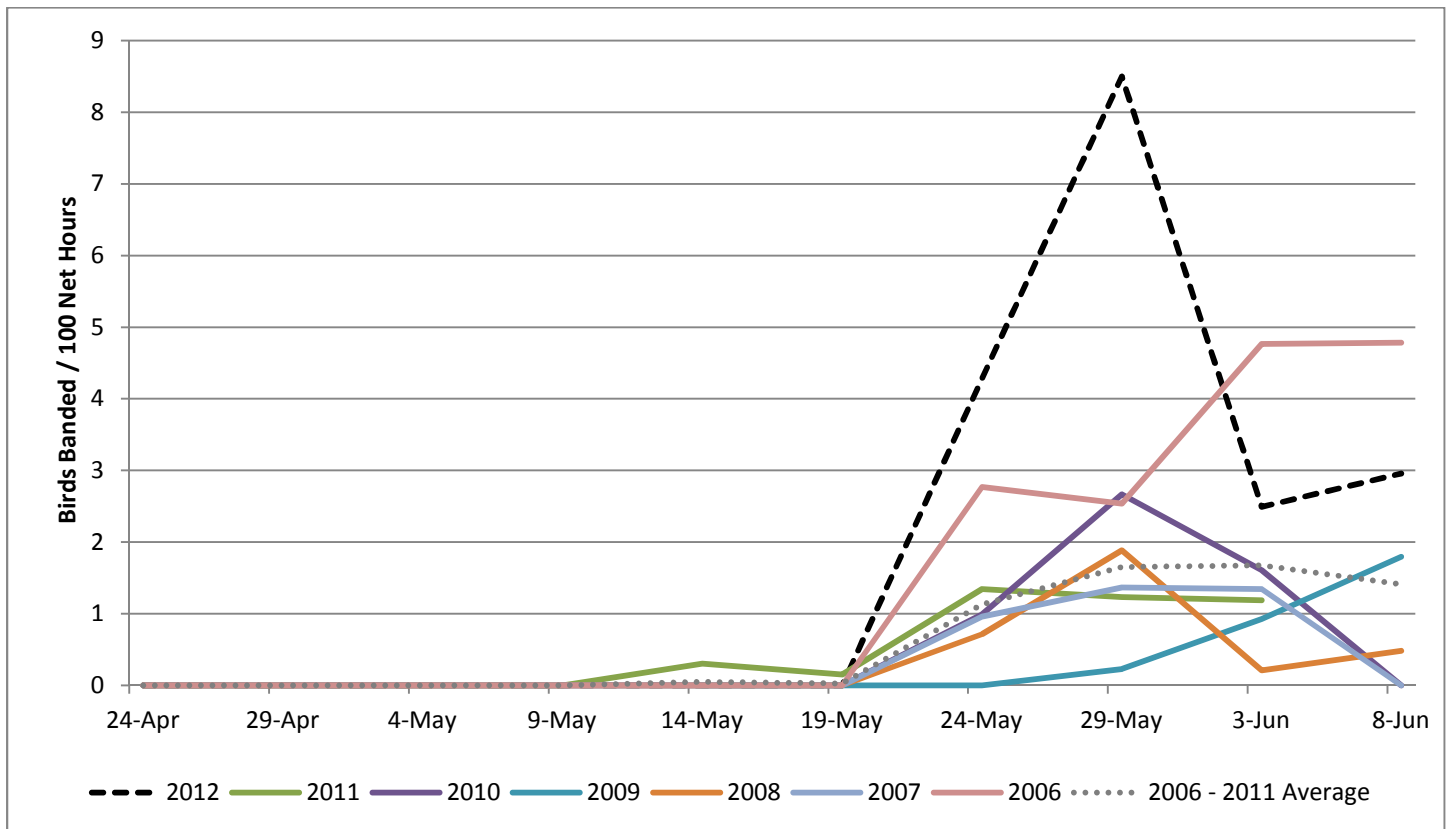


Figure 10. Tennessee Warbler spring migration timing from 2006 to 2012.

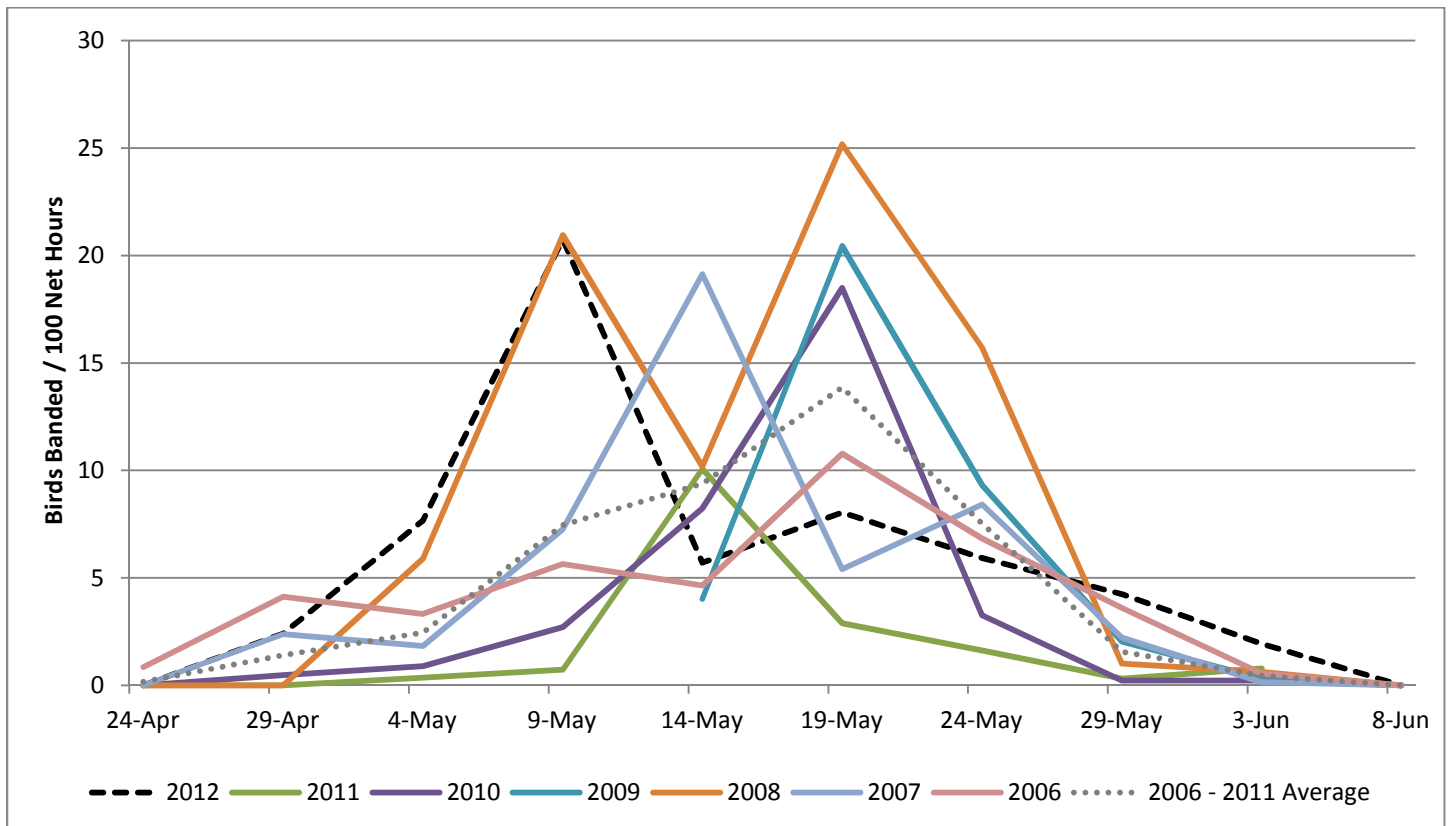


Figure 11. Orange-crowned Warbler spring migration timing from 2006 to 2012.

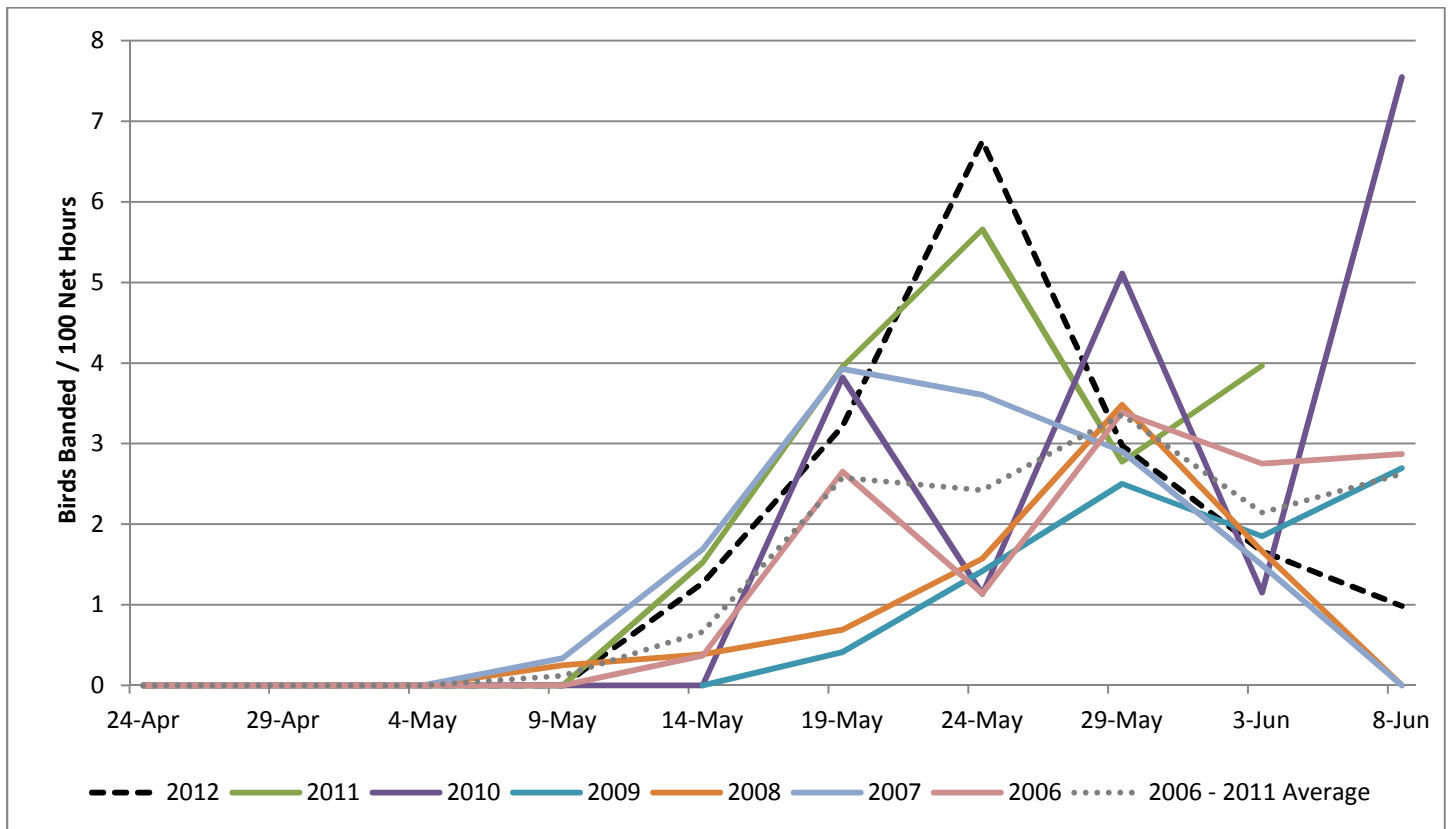


Figure 12. Common Yellowthroat spring migration timing from 2006 to 2012.

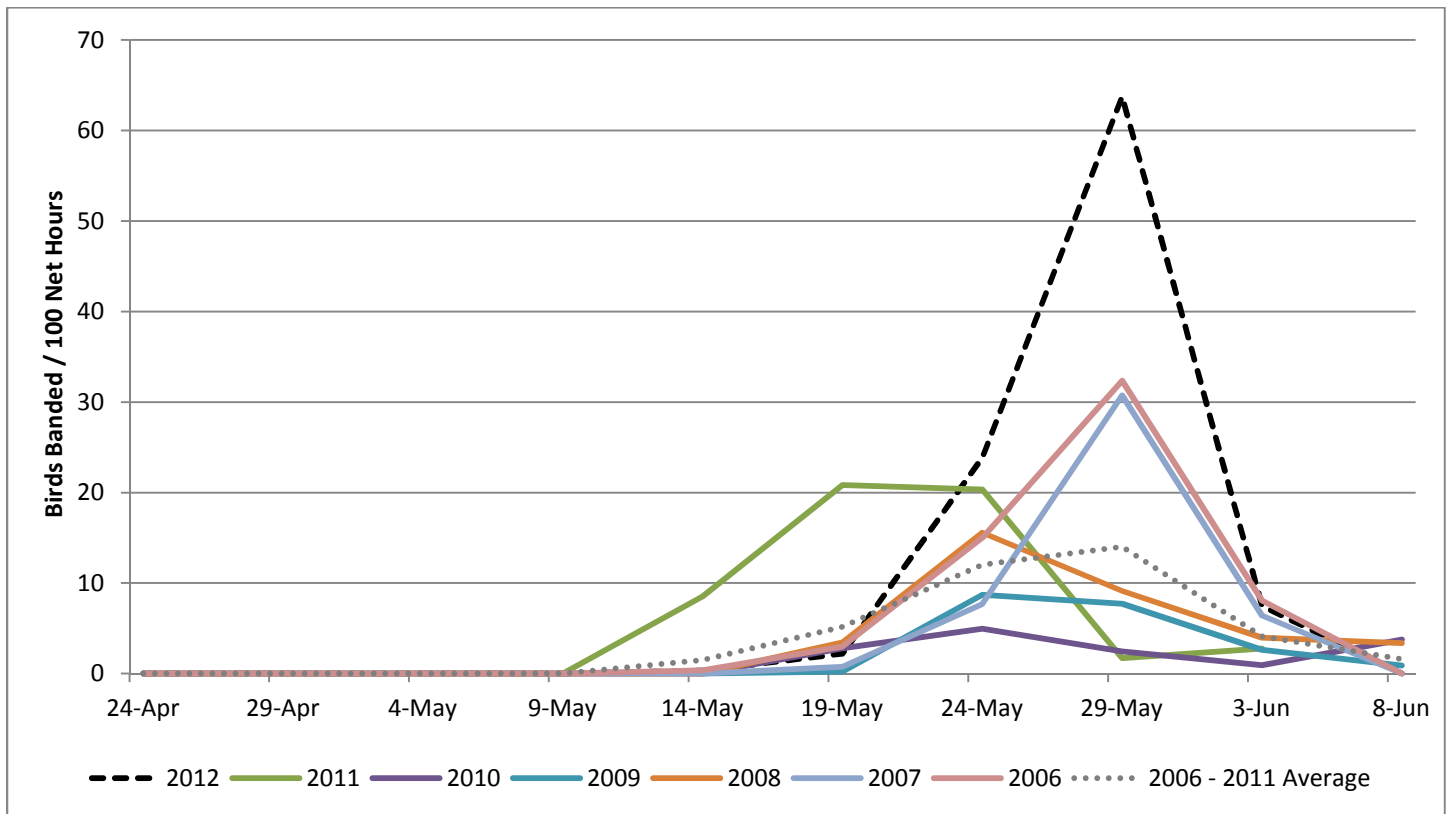


Figure 13. Yellow Warbler spring migration timing from 2006 to 2012.

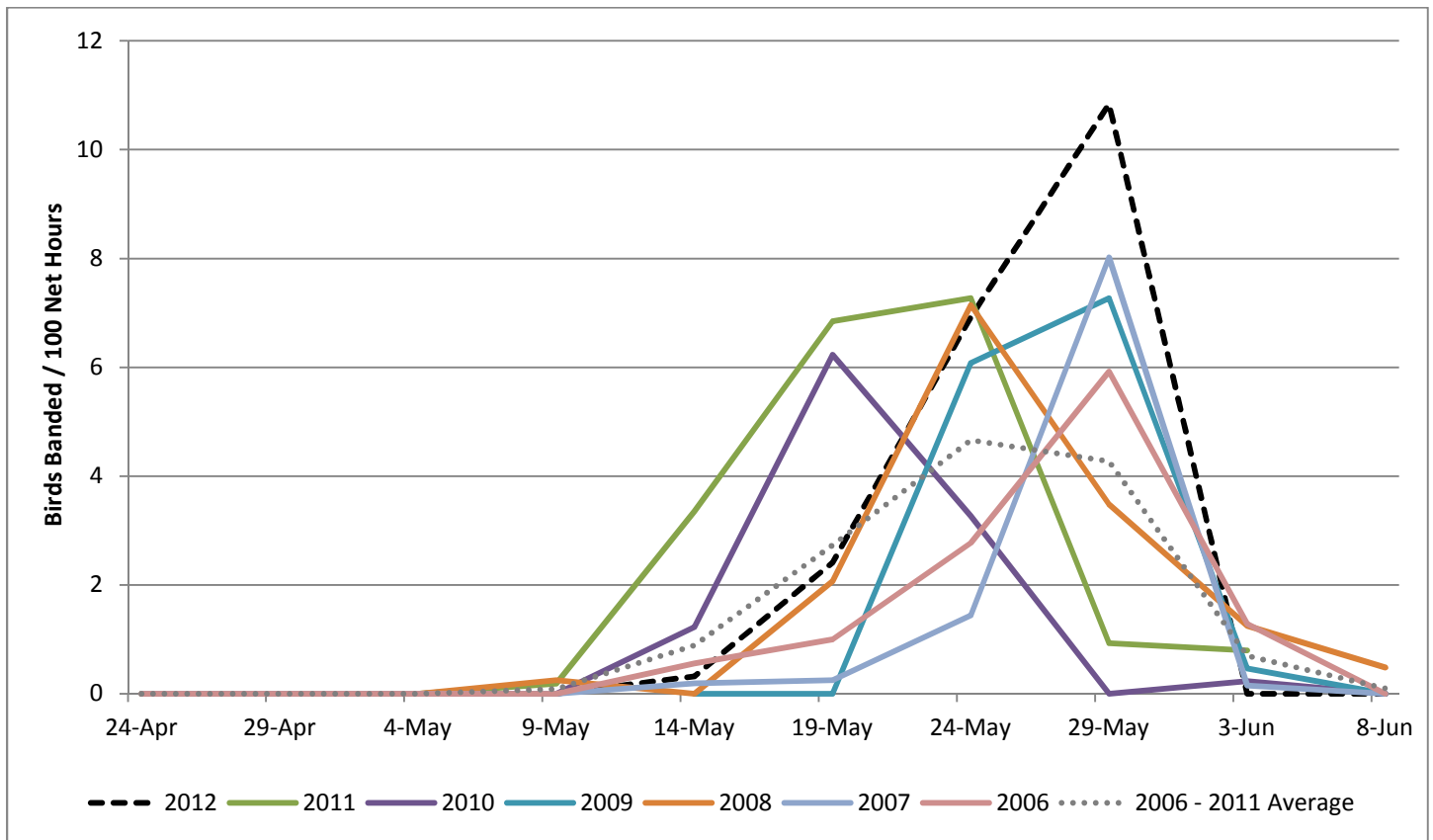


Figure 14. Blackpoll Warbler spring migration timing from 2006 to 2012.

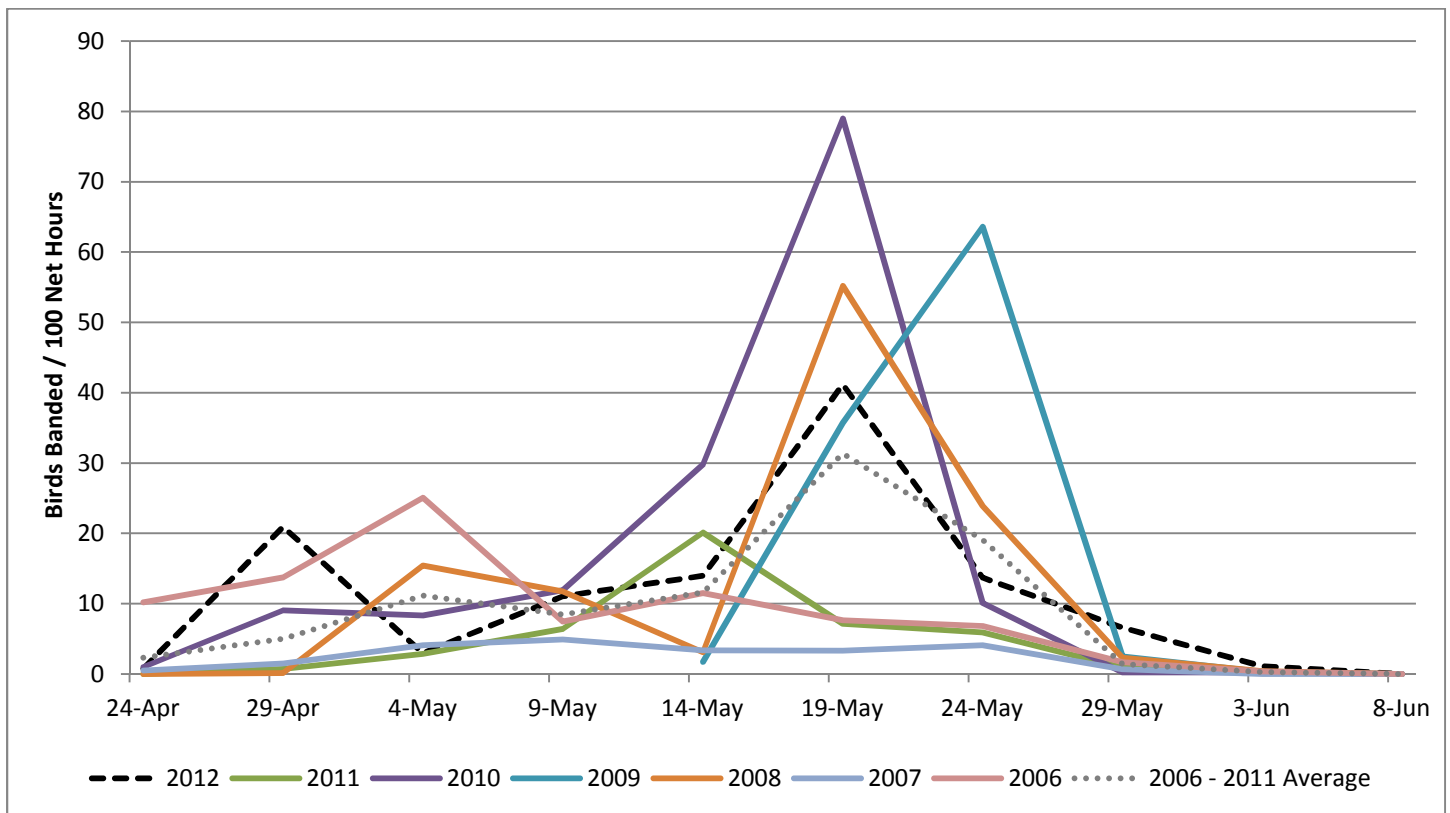


Figure 15. Yellow-rumped 'Myrtle' Warbler spring migration timing from 2006 to 2012.

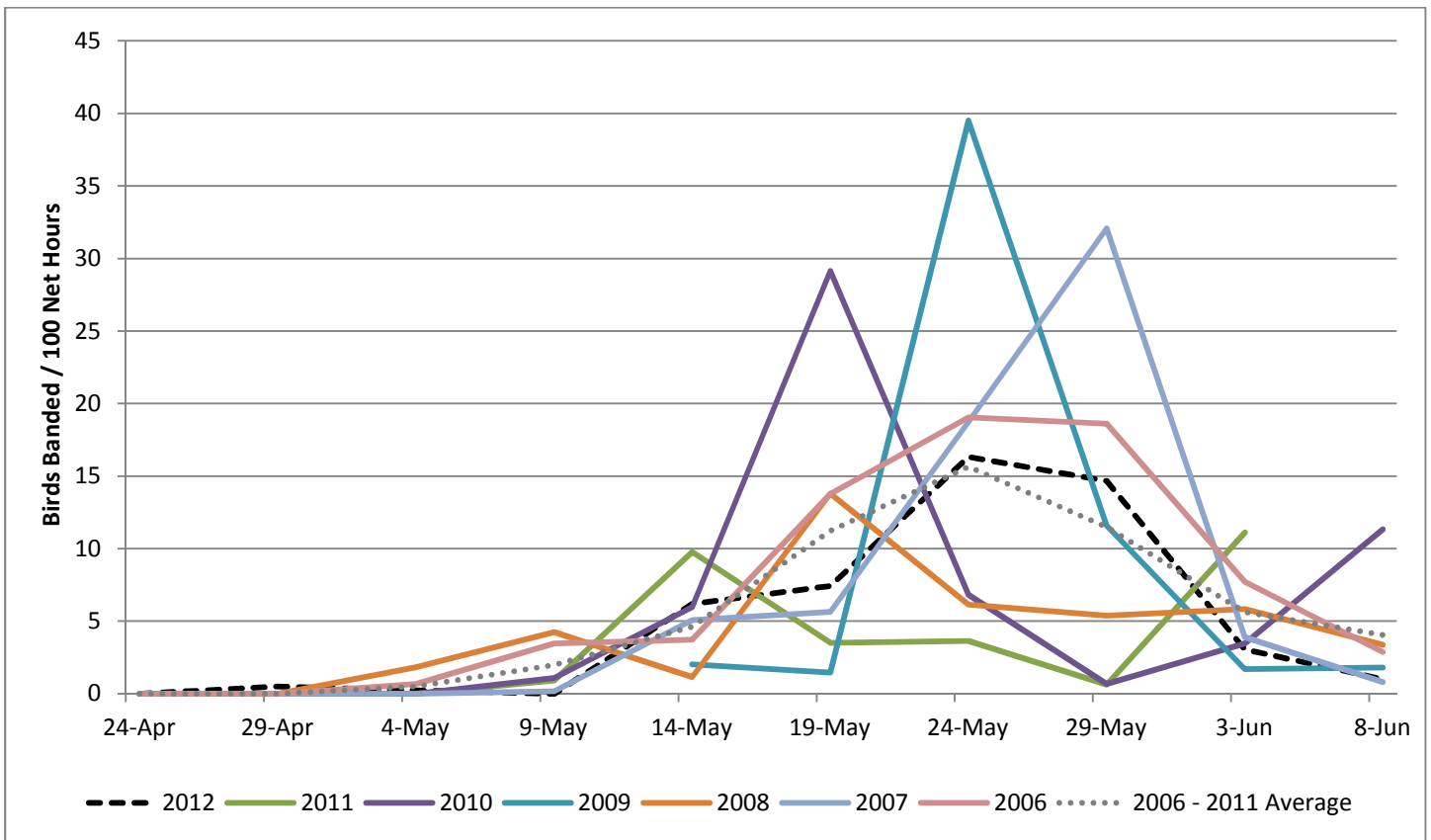


Figure 16. Wilson's Warbler spring migration timing from 2006 to 2012.

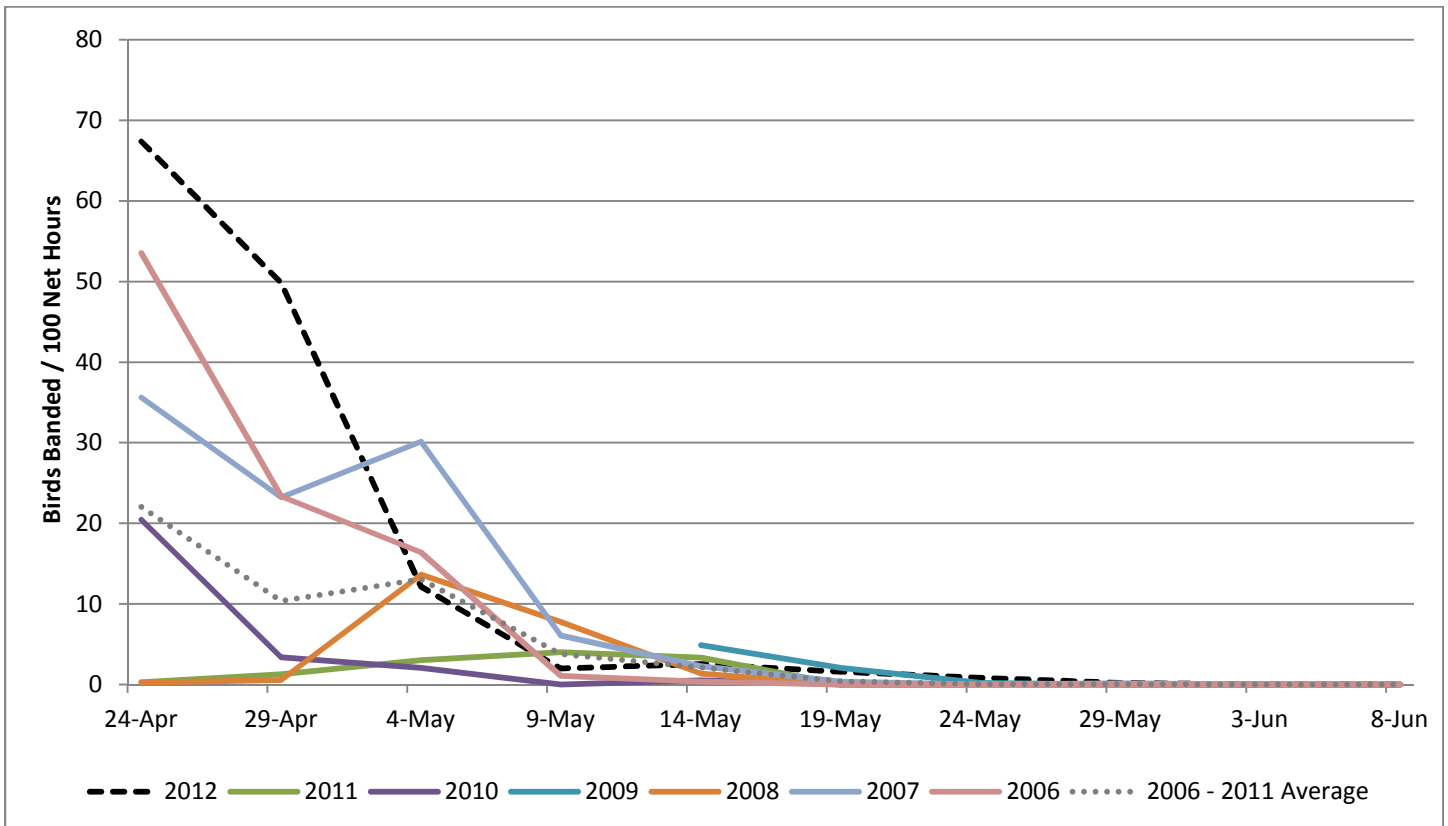


Figure 17. American Tree Sparrow spring migration timing from 2006 to 2012.

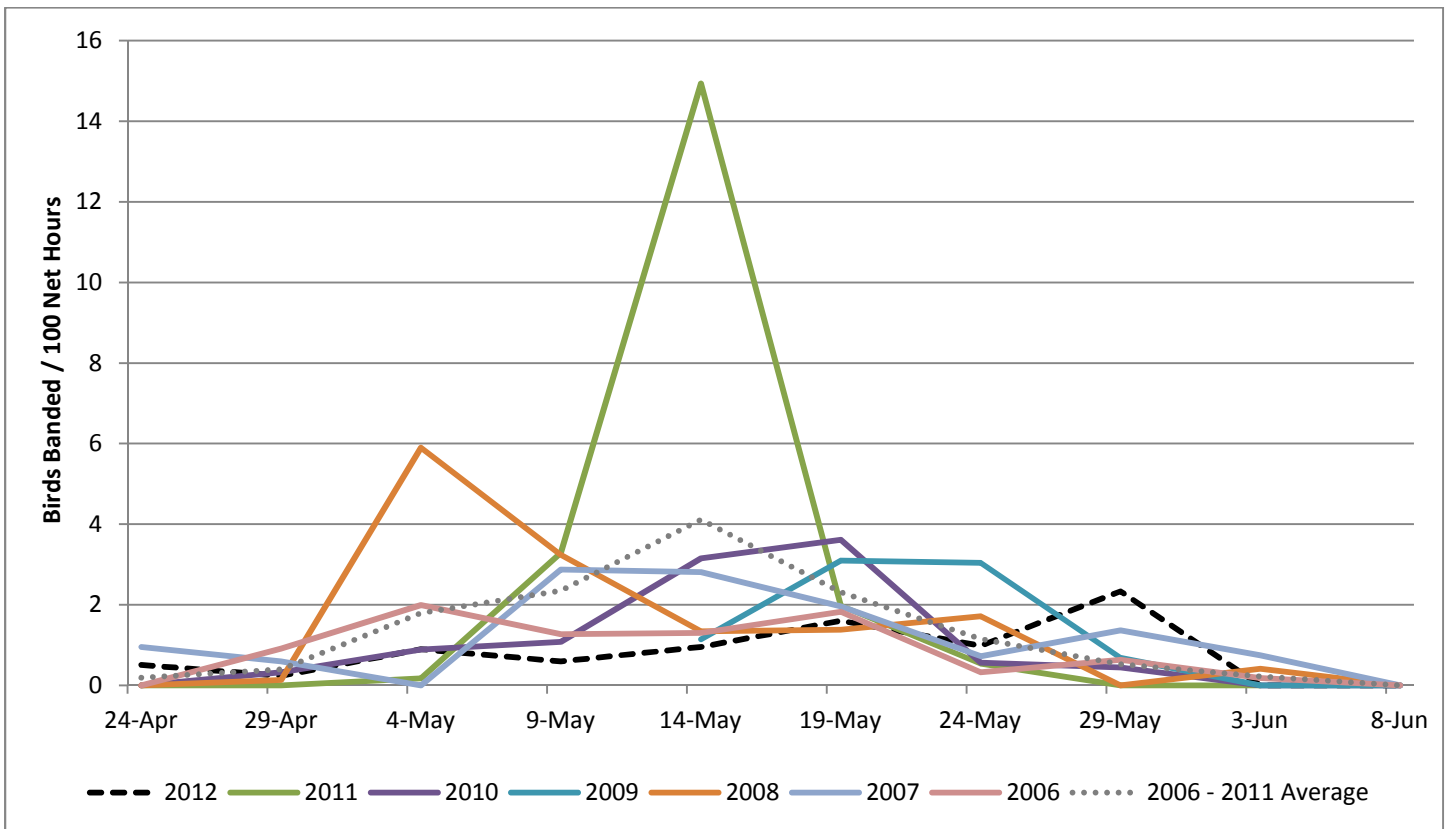


Figure 18. Savannah Sparrow spring migration timing from 2006 to 2012.

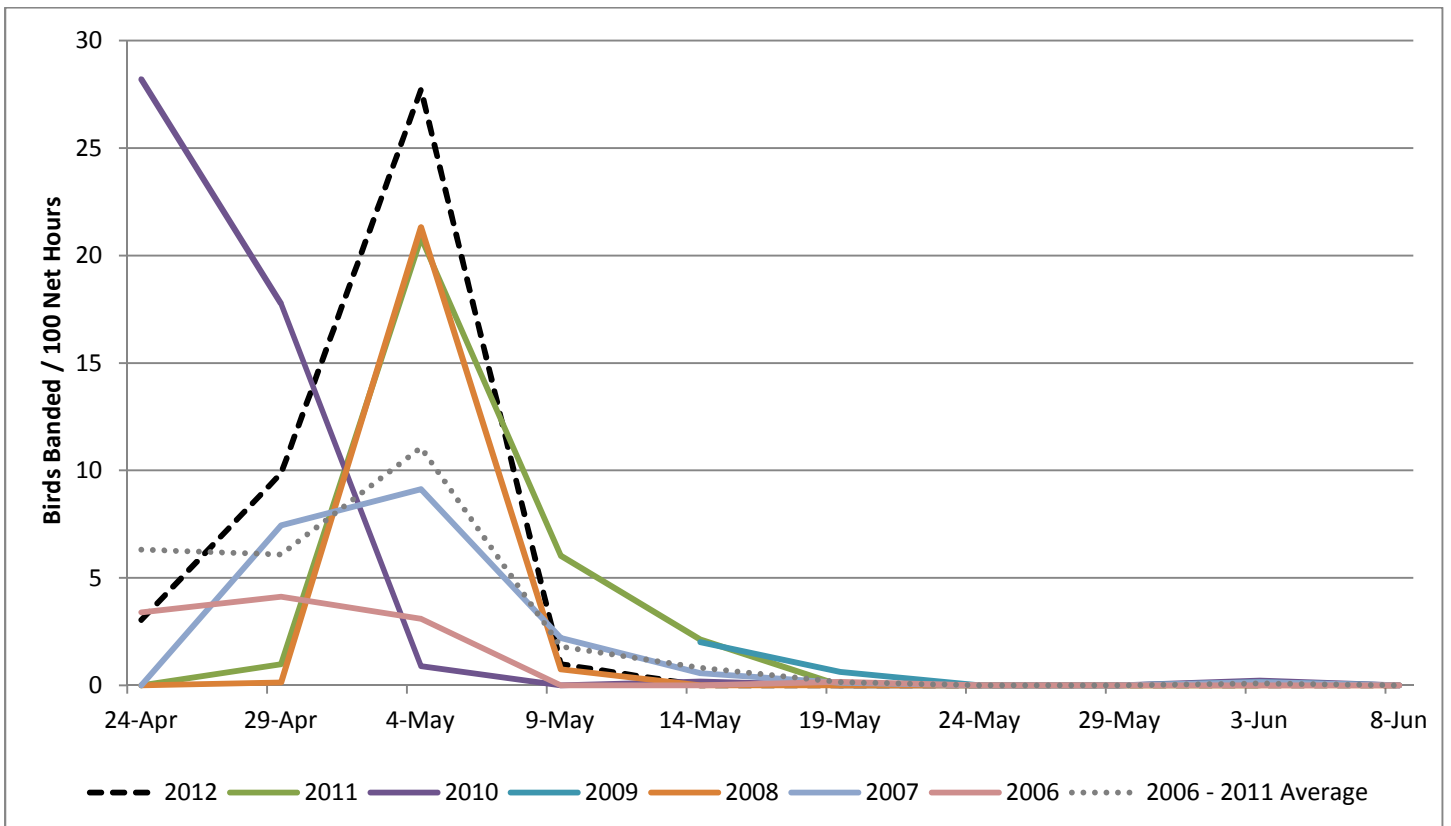


Figure 19. Fox Sparrow spring migration timing from 2006 to 2012.

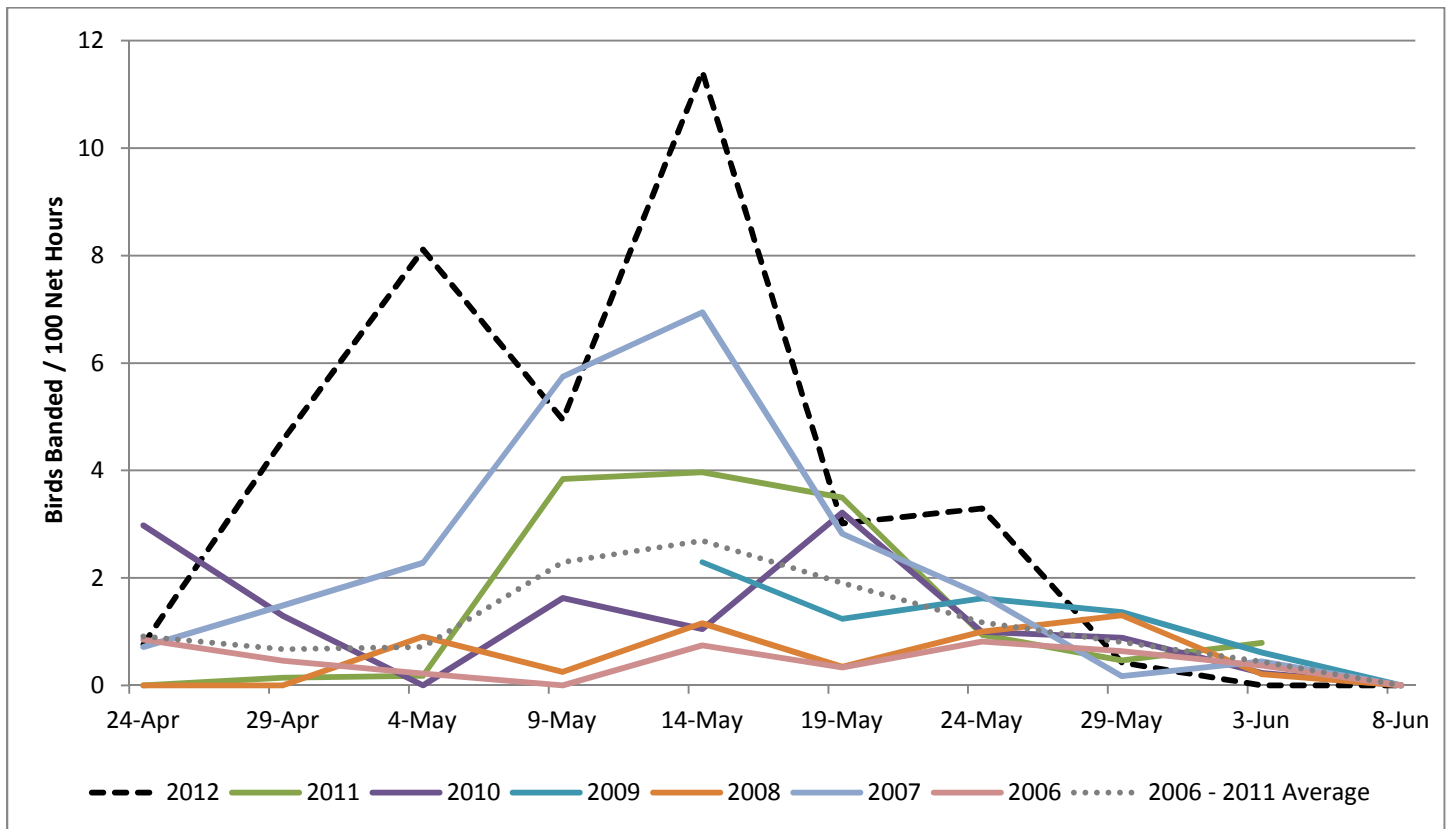


Figure 20. Lincoln's Sparrow spring migration timing from 2006 to 2012.

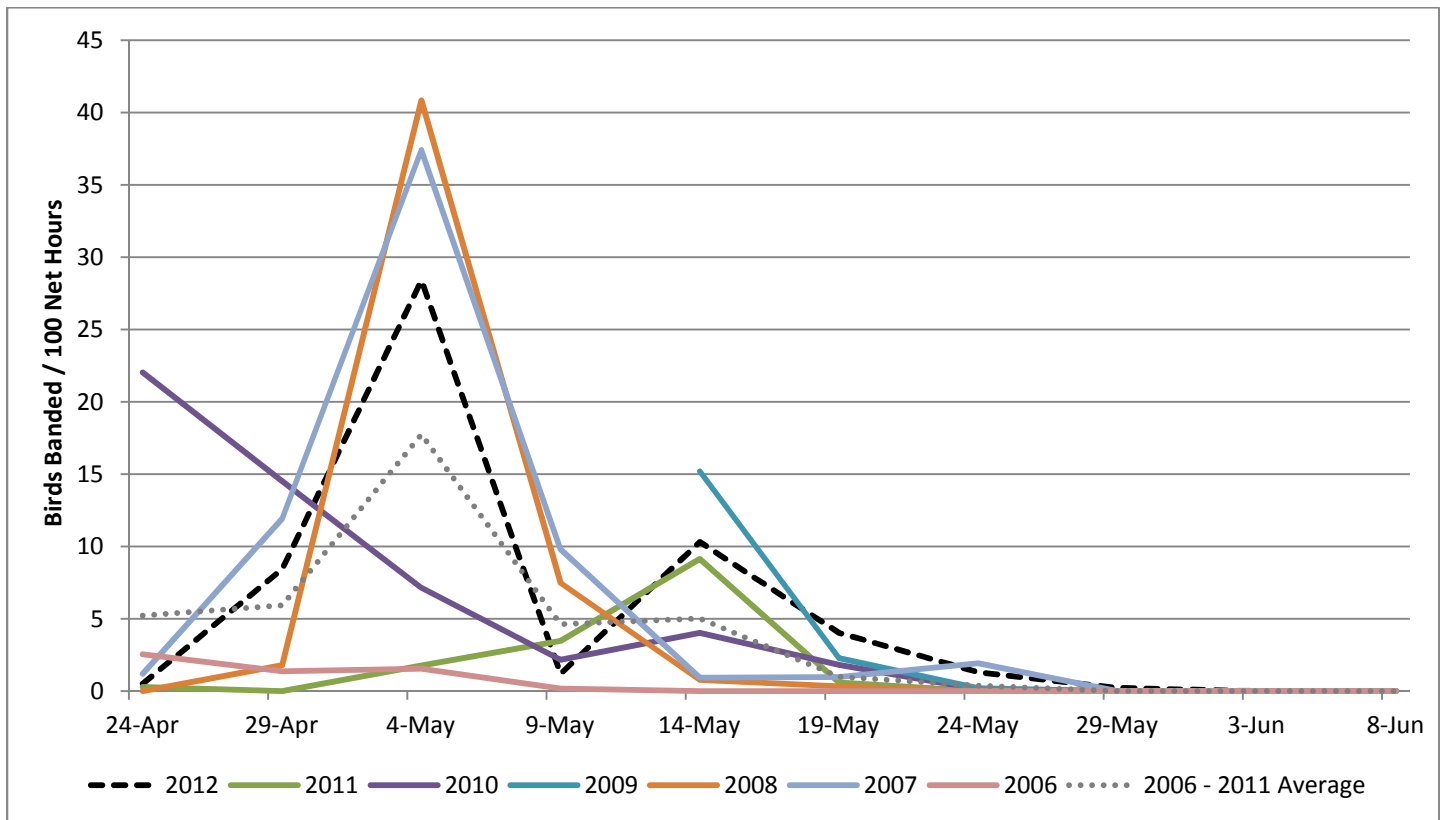


Figure 21. White-crowned Sparrow spring migration timing from 2006 to 2012.

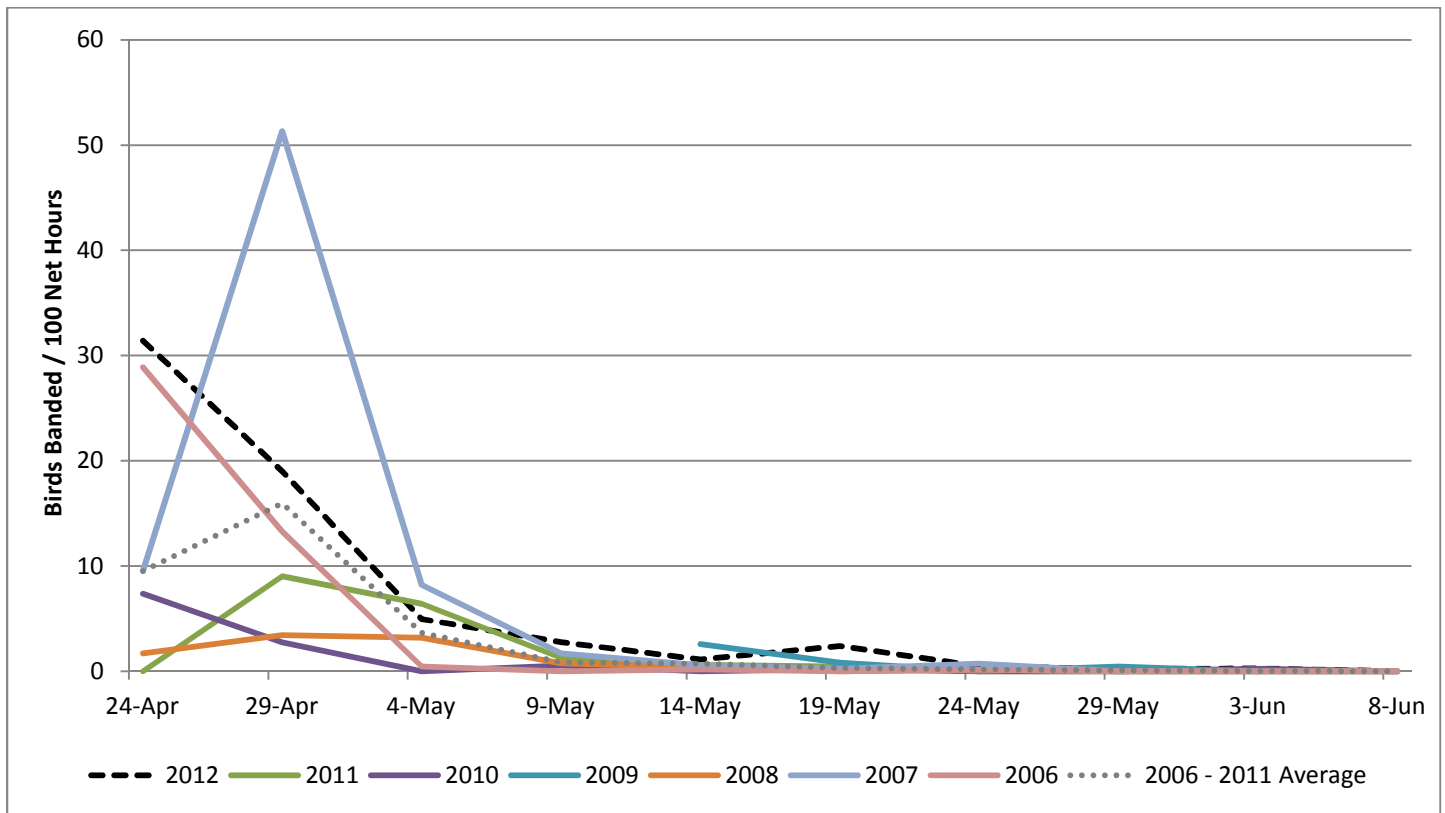


Figure 22. Dark-eyed 'Slate-colored' Junco spring migration timing from 2006 to 2012.

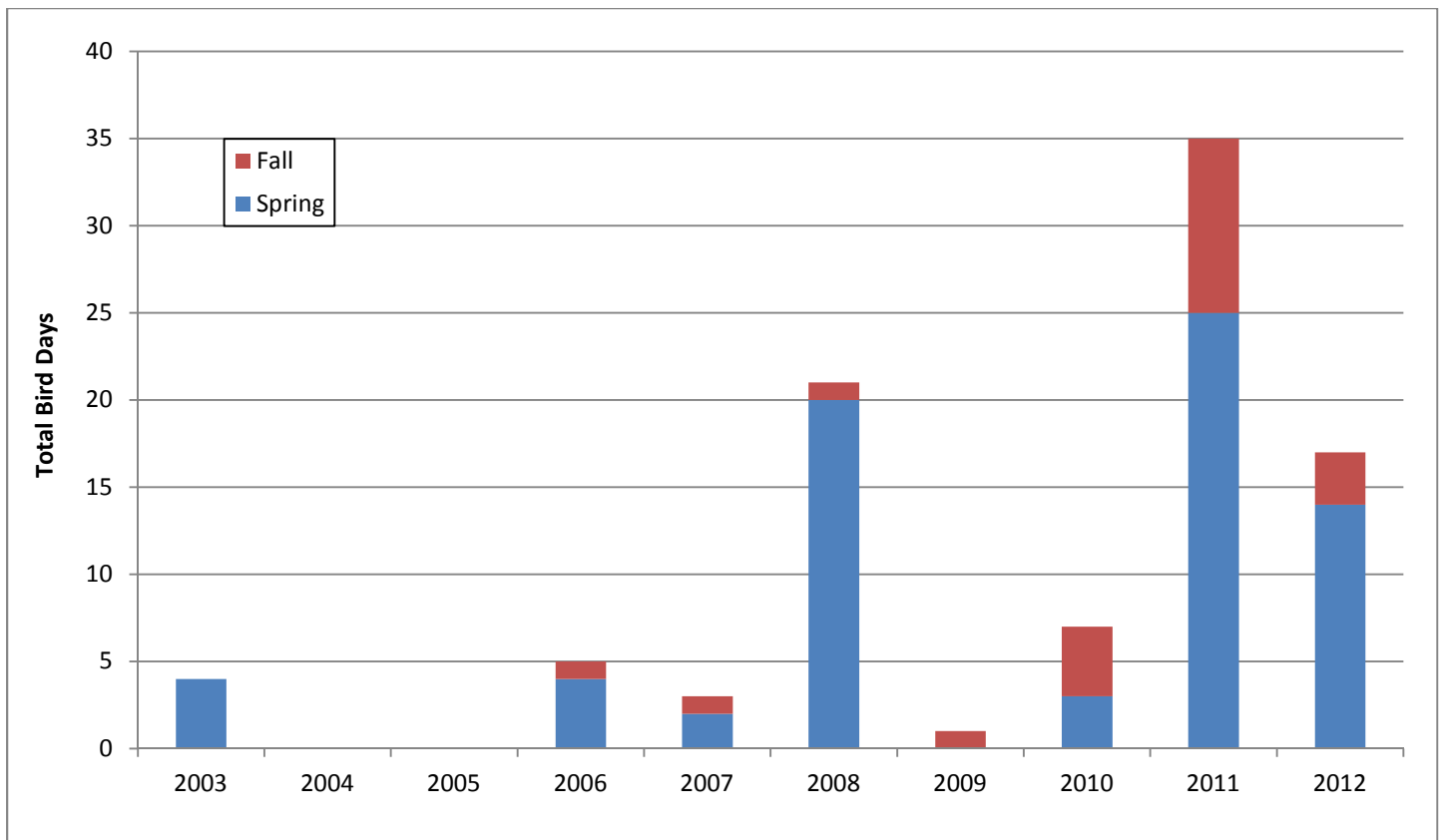


Figure 23. Summary of Sora observations at Albert Creek from 2003 to 2012.

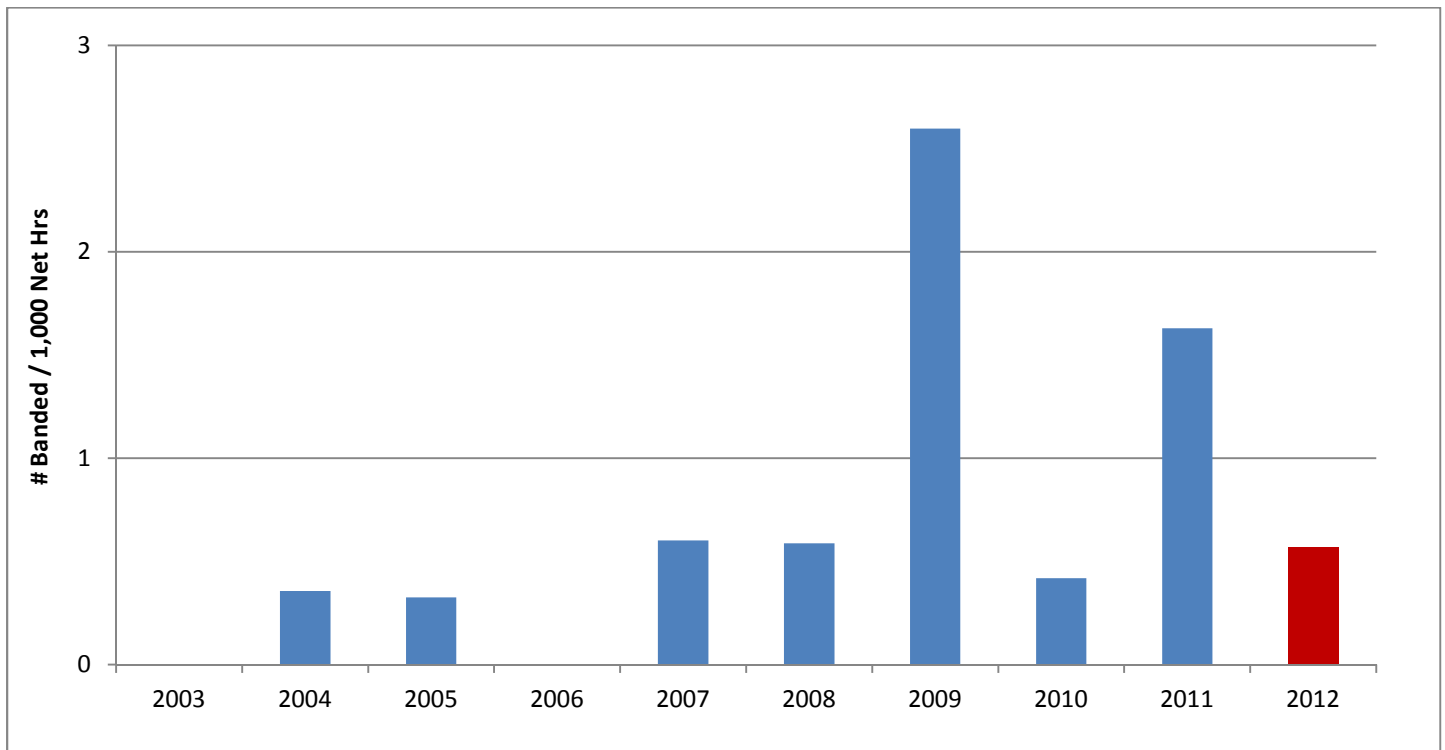


Figure 24. Summary of Yellow-bellied Flycatchers banded during fall at Albert Creek from 2003 to 2012. Only includes data from the migration window of August 5 to 31. Note that 2012 data are shown; however, they are not directly comparable to previous years because the station did not operate at full capacity.

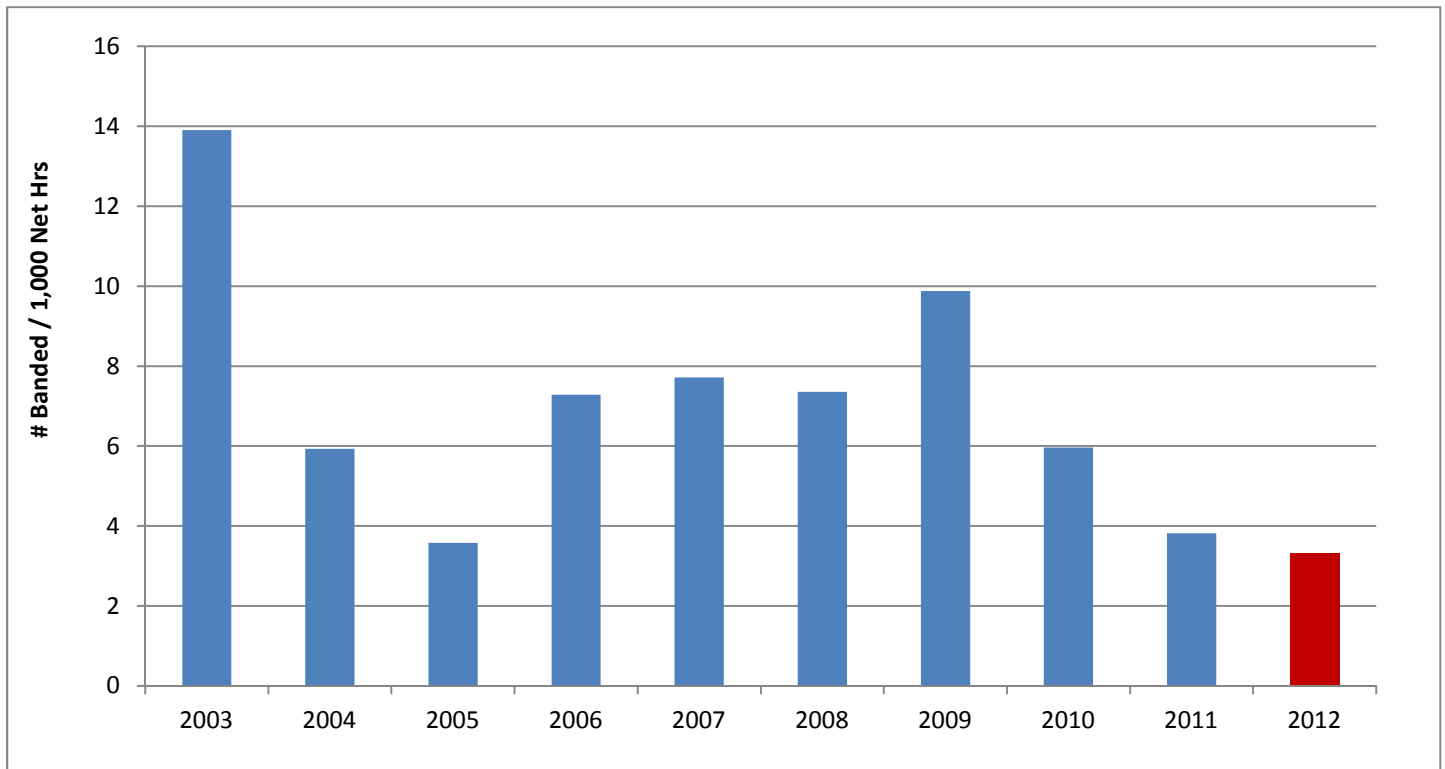


Figure 25. Summary of Magnolia Warblers banded during fall at Albert Creek from 2003 to 2012. Only includes data from the migration window of July 23 to September 5. Note that 2012 data are shown; however, they are not directly comparable to previous years because the station did not operate at full capacity.

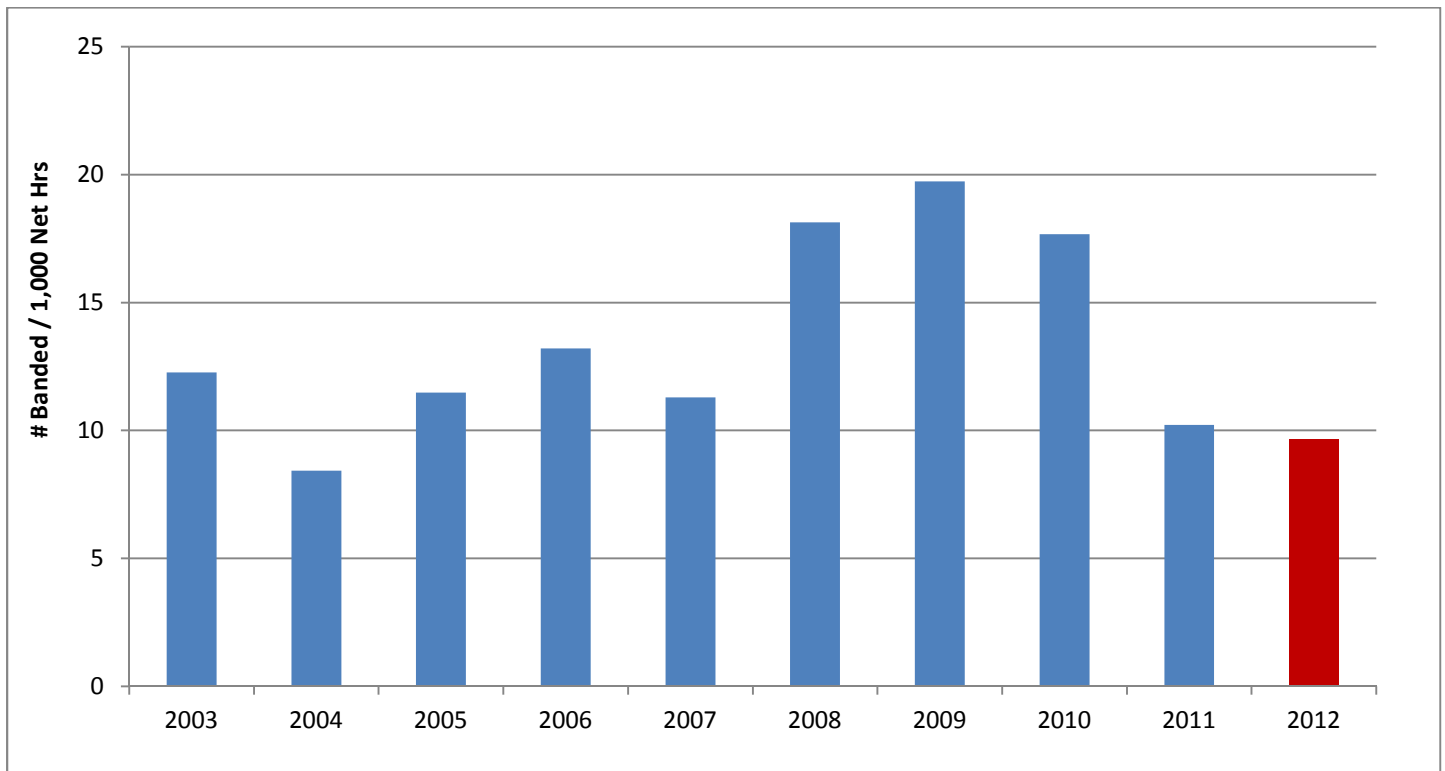


Figure 26. Summary of American Redstarts banded during fall at Albert Creek from 2003 to 2012. Only includes data from the migration window of July 31 to August 31. Note that 2012 data are shown; however, they are not directly comparable to previous years because the station did not operate at full capacity.

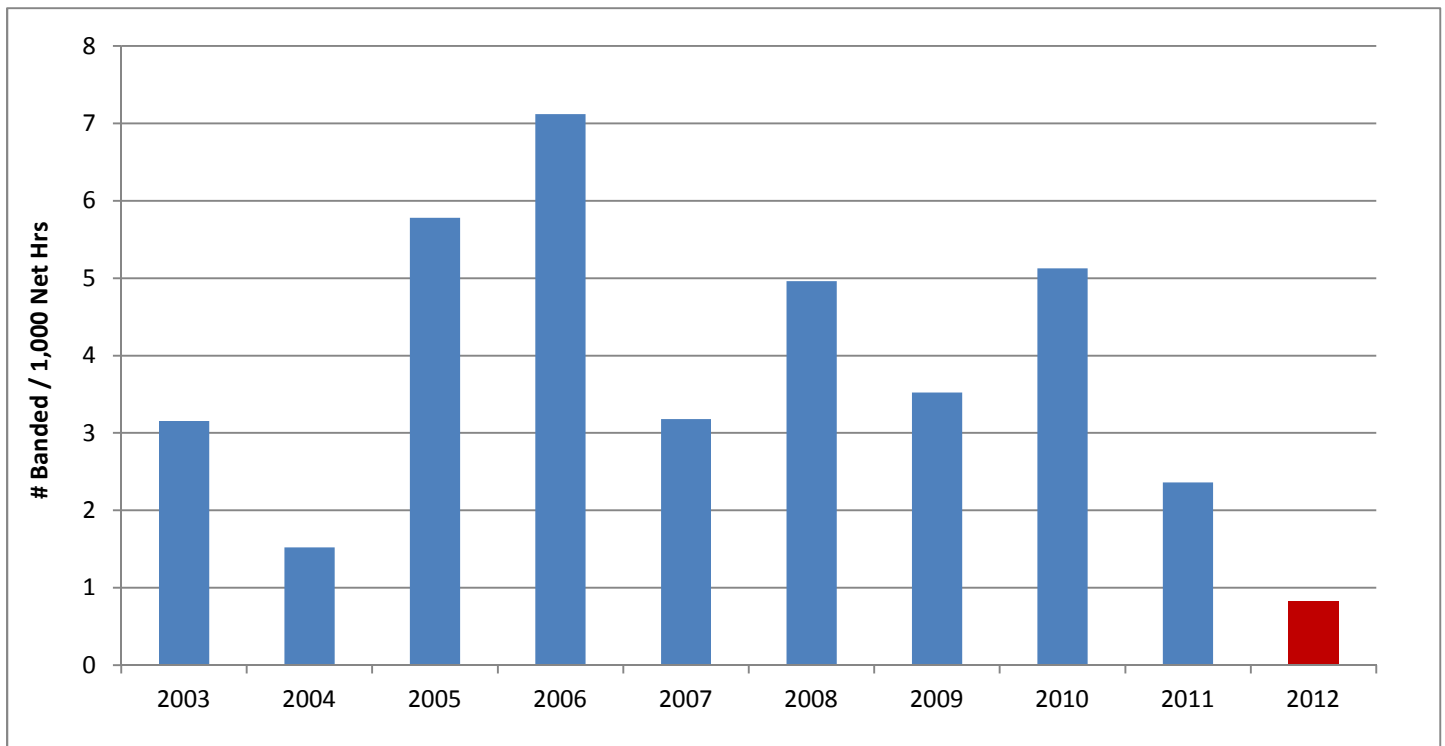


Figure 27. Summary of Swamp Sparrows banded during fall at Albert Creek from 2003 to 2012. Only includes data from the migration window of July 31 to September 10. Note that 2012 data are shown; however, they are not directly comparable to previous years because the station did not operate at full capacity.

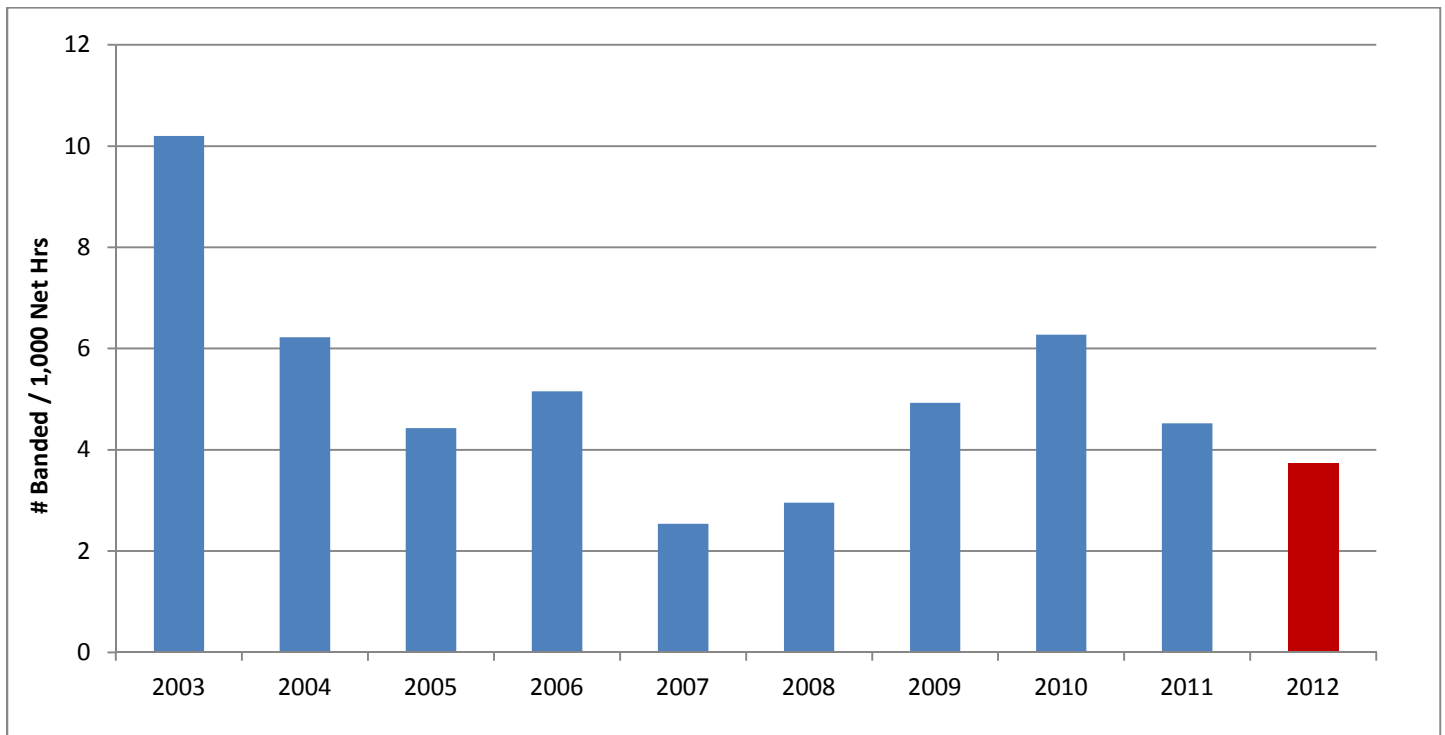


Figure 28. Summary of White-throated Sparrows banded during fall at Albert Creek from 2003 to 2012. Only includes data from the migration window of May 15 to June 15 and July 31 to September 5. Note that 2012 data are shown; however, they are not directly comparable to previous years because the station did not operate at full capacity in fall.

APPENDIX C – Tables

Table 1. Summary of birds banded and observed (✓) to date at the Albert Creek Bird Observatory. Note that observations from 2011 to 2003 are excluded from this table.

| Species | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | | TOTAL BANDED | | |
|-----------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------------|------|-----|
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | ALL |
| Red-throated Loon | | | | | | | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | | | | ✓ | ✓ | ✓ | | | | |
| Common Loon | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Red-necked Grebe | | | | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | ✓ | ✓ | | ✓ | | | |
| Horned Grebe | | | | | | | | | ✓ | | ✓ | | ✓ | | | | | | | | ✓ | ✓ | | | | | |
| Greater White-fronted Goose | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Snow Goose | | | | | | | ✓ | | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | | |
| Canada Goose | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Trumpeter Swan | | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Tundra Swan | | | | | | | | | ✓ | | ✓ | | ✓ | | | | | | | ✓ | | ✓ | | ✓ | | | |
| Gadwall | | | | | | | | | | | ✓ | | | | | ✓ | | ✓ | | | | | | | | | |
| American Wigeon | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Mallard | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Blue-winged Teal | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | 2 | | 2 | 2 |
| Cinnamon Teal | | | | | | | | | | | | | | | | | | | | ✓ | | | | | | | |
| Northern Shoveler | | | | | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Northern Pintail | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | | |
| American Green-winged Teal | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | 1 | ✓ | ✓ | | 2 | 2 |
| Canvasback | | | | | | | | | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | |
| Ring-necked Duck | | | | | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | |
| Greater Scaup | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | |
| Lesser Scaup | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | ✓ | | | | |
| Long-tailed Duck | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | | | | | |
| Bufflehead | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 2 | ✓ | ✓ | | 2 | 2 |
| Common Goldeneye | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Barrow's Goldeneye | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | | | | ✓ | | ✓ | | | | |
| Common Merganser | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | |
| Red-breasted Merganser | | | | | | | | | ✓ | | | | | | ✓ | | | | | | | | | | | | |
| Hooded Merganser | | | | | | | | | | | ✓ | | | | | | | | | | ✓ | | | | | | |
| Bald Eagle | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Northern Harrier | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Sharp Shinned hawk | | | 1 | 3 | 1 | | ✓ | ✓ | 1 | 2 | 2 | ✓ | 1 | 4 | ✓ | 1 | ✓ | 4 | ✓ | 2 | ✓ | 7 | 1 | 2 | 8 | 24 | 32 |
| Northern Goshawk | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Swainson's Hawk | | | | | | | | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Red-tailed Hawk | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Rough-legged Hawk | | | | | | | | | | | | ✓ | ✓ | | | ✓ | | | | ✓ | | | | | | | |
| Golden Eagle | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | |
| American Kestrel | | | | | | | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 1 | | 1 |
| Merlin | | | | | | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Peregrine Falcon | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | | |
| Osprey | | | | | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| Ruffed Grouse | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Spruce Grouse | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Sora | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | 1 | 1 |
| American Coot | | | | | | | | | ✓ | | | | | | | | | | | | ✓ | | ✓ | | | | |
| Sandhill Crane | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | |
| American Golden-Plover | | | | | | | | | | | | | | ✓ | ✓ | | | | | | | | | | | | |
| Semi-palmated Plover | | | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | ✓ | | | | |
| Killdeer | | | | | | | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | |
| Greater Yellowlegs | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Wandering Tattler | | | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | | | |
| Lesser Yellowlegs | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Solitary Sandpiper | | | | | 1 | | ✓ | ✓ | 3 | ✓ | 12 | ✓ | 9 | 2 | 1 | ✓ | 2 | ✓ | 2 | ✓ | 1 | 2 | 6 | | 37 | 4 | 41 |
| Spotted Sandpiper | | | | | | | | ✓ | ✓ | | ✓ | ✓ | 1 | 1 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | 2 | | 3 | 2 | 5 |

| Species | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | | TOTAL BANDED | | | |
|---------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------------|------|------|---|
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | ALL | |
| Upland Sandpiper | | | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | |
| Semi-palmated Sandpiper | | | | | | | | | | | | | ✓ | ✓ | | | | | | | ✓ | | ✓ | | | | | |
| Least Sandpiper | | | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | 2 | ✓ | ✓ | | 2 | 2 | |
| Pectoral Sandpiper | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | | | | | |
| Short-billed Dowitcher | | | | | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | | |
| Long-billed Dowitcher | | | | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | | | | | |
| Whimbrel | | | | | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | | |
| Wilson's Snipe | | | | | 1 | | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | 1 | 1 | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | 2 | 4 | 4 | 8 |
| Red-necked Phalarope | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mew Gull | | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | |
| Herring Gull | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| Bonaparte's Gull | | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | ✓ | | ✓ | | | | |
| Arctic Tern | | | | | | | | | | | | | | | | | | | | | ✓ | | | | | | | |
| Great Horned Owl | | | | | | | | | | | | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Northern Hawk Owl | | | | | | | | | | ✓ | | | ✓ | ✓ | | | | | | | ✓ | | | | | | | |
| Barred Owl | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | | ✓ | ✓ | | | | |
| Short-eared Owl | | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | |
| Boreal Owl | | | | | | | | | | | | | ✓ | 2 | 1 | ✓ | | | ✓ | 2 | | ✓ | | | 1 | 4 | 5 | |
| Northern Saw-whet Owl | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | |
| Common Nighthawk | | | | | | | | ✓ | | | ✓ | | | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | | | | | | |
| Belted Kingfisher | | | | | | | | ✓ | ✓ | | ✓ | 1 | ✓ | 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | 4 | 1 | 1 | 4 | 7 | 11 | |
| Yellow-bellied Sapsucker | 1 | 1 | 2 | 1 | 7 | 8 | 15 | 21 | 9 | 14 | 17 | 18 | 16 | 16 | 9 | 10 | 9 | 5 | 7 | 16 | 11 | 9 | 14 | 4 | 117 | 123 | 240 | |
| Downy Woodpecker | | | | | | | | ✓ | | | | 1 | | | | | | | ✓ | ✓ | | 1 | | | 2 | 2 | | |
| Hairy Woodpecker | | | | | 1 | | 1 | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 4 | | 4 | |
| Three-toed Woodpecker | | | | | | 2 | | 1 | | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | 1 | 4 | 5 | |
| Black-backed Woodpecker | | | | | | | | 1 | | ✓ | | | | ✓ | ✓ | ✓ | | | | ✓ | | | | | 1 | 1 | | |
| Yellow-shafted Northern Flicker | | | | 1 | | | 2 | 1 | 1 | 2 | ✓ | 1 | 1 | 1 | 3 | 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | 9 | 6 | 15 | |
| Pileated Woodpecker | | | | | | | | ✓ | ✓ | 1 | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 1 | 2 | 3 | |
| Olive-sided Flycatcher | | | | | | | | 2 | | | ✓ | 5 | ✓ | 1 | ✓ | 2 | ✓ | ✓ | | 2 | 1 | ✓ | | 4 | 16 | 1 | 17 | |
| Western Wood-pewee | | | | | 1 | | | ✓ | | | 4 | | | ✓ | | 2 | ✓ | ✓ | | 2 | ✓ | 1 | 1 | ✓ | 10 | 2 | 12 | |
| Yellow-bellied Flycatcher | | | | 1 | 4 | | 2 | 1 | 1 | 2 | | | 1 | 2 | | 2 | ✓ | 6 | ✓ | 1 | ✓ | 6 | 1 | 1 | 6 | 25 | 31 | |
| Alder Flycatcher | 5 | 5 | 19 | 27 | 16 | 80 | 19 | 217 | 23 | 174 | 80 | 183 | 28 | 253 | 21 | 202 | 35 | 93 | 7 | 78 | 14 | 122 | 79 | 36 | 346 | 1470 | 1816 | |
| Least Flycatcher | 1 | 3 | 5 | 9 | 3 | 8 | ✓ | 19 | 2 | 16 | 3 | 12 | 4 | 14 | 2 | 11 | 1 | 7 | ✓ | 15 | 3 | 44 | 3 | 9 | 27 | 167 | 194 | |
| Hammond's Flycatcher | | | | | | 2 | 1 | 2 | 12 | 14 | 14 | 8 | 9 | | 2 | 7 | 2 | 4 | 1 | 16 | 6 | 20 | 12 | 8 | 59 | 81 | 140 | |
| Dusky Flycatcher | | | | | | | | | | 1 | | | | 1 | 1 | | | 2 | | | | 1 | | | 2 | 4 | 6 | |
| Say's Phoebe | | | | | | | | ✓ | | | 1 | | | ✓ | | ✓ | | ✓ | | | | 1 | ✓ | 4 | | 6 | 6 | |
| Horned Lark | | | | | | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | |
| Northern Shrike | | | | 1 | | | | ✓ | | | | 4 | ✓ | | 1 | 1 | | 1 | | ✓ | ✓ | ✓ | | | 1 | 7 | 8 | |
| Blue-headed Vireo | | | | | | 2 | | 6 | | 4 | ✓ | 2 | | 1 | | | | | | | | 1 | ✓ | | | 16 | 16 | |
| Warbling Vireo | 2 | 3 | 8 | 19 | 6 | 17 | 11 | 28 | 10 | 34 | 7 | 22 | 7 | 26 | 3 | 17 | 5 | 14 | 4 | 27 | 5 | 64 | 1 | 8 | 69 | 279 | 348 | |
| Philadelphia Vireo | | | | | | | | 1 | | | | | | | | ✓ | | | | | | | | | | 1 | 1 | |
| Red-eyed Vireo | | | | | | | | 1 | | | | | | ✓ | | | | | | | | | | | | 1 | 1 | |
| Gray Jay | 1 | | 4 | | 4 | | 1 | 1 | 1 | 2 | ✓ | 2 | 1 | 1 | ✓ | ✓ | ✓ | ✓ | 4 | 1 | ✓ | 1 | 3 | 2 | 19 | 10 | 29 | |
| American Crow | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Common Raven | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Tree Swallow | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | 13 | | ✓ | ✓ | 4 | ✓ | 3 | ✓ | 7 | ✓ | 28 | | 28 | |
| Violet-green Swallow | | | | | | | | ✓ | ✓ | | ✓ | | | ✓ | | 2 | | ✓ | | 1 | ✓ | 1 | ✓ | ✓ | 4 | | 4 | |
| Northern Rough-winged Swallow | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | |
| Bank Swallow | | | | | | | | | | | | | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Cliff Swallow | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Barn Swallow | | | | | | | | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Black-capped Chickadee | | 4 | 4 | 5 | | 3 | 5 | 12 | 2 | 13 | ✓ | 16 | ✓ | 10 | ✓ | 16 | ✓ | 8 | 2 | 6 | ✓ | 11 | ✓ | 9 | 13 | 113 | 126 | |
| Boreal Chickadee | | 8 | 5 | 7 | 6 | 7 | 1 | 6 | 1 | 8 | 3 | 8 | ✓ | 13 | 3 | 6 | ✓ | 27 | 5 | 14 | 8 | 48 | 5 | 2 | 37 | 154 | 191 | |
| Red-breasted Nuthatch | | 3 | | | 1 | | ✓ | 1 | | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | | ✓ | ✓ | 1 | ✓ | 2 | ✓ | 2 | 1 | 10 | 11 | |

| Species | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | | TOTAL BANDED | | | |
|---------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------------|------|------|---|
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | ALL | |
| Winter Wren | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| Golden-crowned Kinglet | | | | | | | | | | 3 | | | 3 | | ✓ | | | | | ✓ | 3 | | | | | 9 | 9 | |
| Ruby-crowned Kinglet | 17 | | 20 | 29 | 24 | 125 | 51 | 47 | 18 | 200 | 246 | 412 | 75 | 184 | 88 | 53 | ✓ | 121 | 42 | 93 | 40 | 55 | 94 | 51 | 715 | 1370 | 2085 | |
| Townsend's Solitaire | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | |
| Gray-cheeked Thrush | | | 9 | 4 | 1 | 1 | 18 | 10 | 2 | 8 | 22 | 17 | 13 | 8 | 2 | 5 | 2 | 10 | 6 | 5 | | 2 | 16 | 2 | 91 | 72 | 163 | |
| Swainson's Thrush | 2 | 1 | 25 | 7 | 21 | 65 | 53 | 104 | 19 | 133 | 46 | 93 | 55 | 137 | 15 | 70 | 19 | 43 | 29 | 66 | 35 | 74 | 82 | 31 | 401 | 824 | 1225 | |
| Hermit Thrush | | 1 | 2 | 3 | 2 | 3 | 3 | 7 | 4 | 2 | 6 | 6 | 1 | 3 | 5 | 2 | 2 | 10 | 2 | 10 | 9 | 1 | 16 | | 52 | 48 | 100 | |
| American Robin | 3 | | 6 | | 10 | 3 | 13 | 6 | 19 | 1 | 31 | 2 | 18 | 2 | 5 | 1 | 9 | ✓ | 17 | 11 | 19 | 5 | 21 | 4 | 171 | 35 | 206 | |
| Varied Thrush | | | | 2 | 1 | 3 | ✓ | 3 | 2 | 2 | 3 | 7 | ✓ | 3 | ✓ | 5 | ✓ | 5 | 1 | 7 | 5 | 10 | 10 | 1 | 22 | 48 | 70 | |
| American Pipit | | | 1 | | | | ✓ | 2 | | ✓ | 5 | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | 3 | ✓ | 1 | ✓ | 11 | 3 | 14 | |
| Bohemian Waxwing | | | | | 2 | | ✓ | | 6 | ✓ | 9 | ✓ | ✓ | ✓ | 2 | | 2 | ✓ | ✓ | ✓ | 1 | ✓ | 1 | | 23 | | 23 | |
| Cedar Waxwing | | | | | | | | 8 | | | | | | 8 | ✓ | 3 | | 1 | | 4 | 1 | ✓ | | ✓ | 1 | 24 | 25 | |
| Lapland Longspur | | | | | | | 2 | ✓ | | ✓ | 35 | ✓ | 1 | ✓ | 2 | ✓ | 6 | ✓ | 1 | ✓ | 3 | | 1 | ✓ | 51 | | 51 | |
| Snow Bunting | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | |
| Tennessee Warbler | 1 | 4 | 12 | 9 | 17 | 14 | 48 | 12 | 51 | 30 | 60 | 15 | 21 | 22 | 22 | 28 | 8 | 137 | 26 | 158 | 23 | 152 | 78 | 5 | 367 | 586 | 953 | |
| Orange-crowned Warbler | 57 | 12 | | 30 | 137 | 52 | 286 | 199 | 105 | 122 | 214 | 151 | 251 | 152 | 339 | 87 | 170 | 97 | 177 | 61 | 75 | 88 | 288 | 36 | 2099 | 1087 | 3186 | |
| Yellow Warbler | 6 | 7 | 84 | 22 | 65 | 50 | 61 | 159 | 33 | 149 | 313 | 125 | 261 | 214 | 208 | 93 | 96 | 157 | 65 | 85 | 334 | 82 | 485 | 29 | 2011 | 1172 | 3183 | |
| Magnolia Warbler | 1 | 1 | 2 | 22 | 1 | 36 | 4 | 26 | 4 | 19 | 1 | 32 | 5 | 38 | 4 | 38 | ✓ | 27 | ✓ | 20 | ✓ | 24 | 2 | 8 | 24 | 291 | 315 | |
| Cape May Warbler | | | | | | | ✓ | | | 2 | ✓ | | 2 | 3 | 3 | 2 | 1 | | ✓ | 1 | ✓ | 1 | ✓ | | 6 | 9 | 15 | |
| Yellow-rumped Myrtle Warbler | 73 | 35 | 9 | 80 | 143 | 86 | 268 | 138 | 91 | 185 | 364 | 105 | 113 | 262 | 434 | 117 | 505 | 90 | 776 | 83 | 217 | 287 | 571 | 89 | 3564 | 1557 | 5121 | |
| Yellow-rumped Warbler | | | | | | | | | | | 3 | | | | ✓ | 1 | | | | | | | | | 3 | 1 | 4 | |
| Townsend's Warbler | | 1 | | | | 3 | 1 | | | 3 | | 1 | ✓ | 1 | 4 | | ✓ | 2 | ✓ | | ✓ | 1 | ✓ | | 5 | 12 | 17 | |
| Bay-breasted Warbler | | | | | | | 1 | 1 | | | | 1 | ✓ | | ✓ | | | | | 1 | | | | | 1 | 3 | 4 | |
| Blackpoll Warbler | 3 | 8 | 8 | 8 | 22 | 13 | 22 | 44 | 17 | 30 | 62 | 32 | 57 | 41 | 88 | 19 | 65 | 36 | 62 | 16 | 121 | 28 | 107 | 23 | 634 | 298 | 932 | |
| Black-and-white Warbler | | | | | 1 | | | | | 1 | 1 | | 1 | | | | | 1 | | | | | | 1 | | 5 | 1 | 6 |
| MacGillvray's Warbler | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 2 | |
| American Redstart | | 1 | 9 | 19 | 7 | 27 | 18 | 35 | 9 | 54 | 15 | 48 | 10 | 50 | 6 | 90 | 2 | 38 | 7 | 54 | 3 | 52 | 15 | 17 | 101 | 485 | 586 | |
| Ovenbird | | | | | 1 | | | | | | | 1 | | | | | ✓ | | | | | | 1 | | 2 | 1 | 3 | |
| Northern Waterthrush | 11 | 3 | 51 | 22 | 47 | 33 | 69 | 95 | 50 | 157 | 91 | 97 | 145 | 248 | 31 | 195 | 113 | 202 | 65 | 248 | 81 | 191 | 166 | 93 | 920 | 1584 | 2504 | |
| Common Yellowthroat | 3 | 6 | 38 | 40 | 35 | 72 | 17 | 107 | 19 | 199 | 62 | 228 | 85 | 217 | 46 | 191 | 35 | 233 | 57 | 205 | 102 | 185 | 86 | 68 | 585 | 1751 | 2336 | |
| Wilson's Warbler | 16 | 10 | 189 | 28 | 384 | 83 | 502 | 203 | 552 | 106 | 398 | 218 | 369 | 167 | 182 | 146 | 274 | 158 | 249 | 90 | 125 | 68 | 259 | 42 | 3499 | 1319 | 4818 | |
| American-tree Sparrow | 6 | 1 | 9 | 19 | 24 | 26 | 172 | 66 | 175 | 150 | 196 | 223 | 345 | 116 | 74 | 61 | 28 | 117 | 136 | 31 | 63 | 19 | 571 | 2 | 1799 | 831 | 2630 | |
| Chipping Sparrow | | | 7 | 1 | 10 | 1 | 4 | 9 | 12 | 2 | 8 | 1 | 8 | 3 | 6 | 1 | 2 | 4 | 9 | 2 | 6 | 2 | 2 | | 74 | 26 | 100 | |
| Clay-colored Sparrow | | | | | | | | | | | | | | | | | | | 1 | | | | | | 1 | | 1 | |
| Savannah Sparrow | 4 | | 7 | 3 | 27 | 6 | 38 | 19 | 31 | 7 | 42 | 13 | 70 | 18 | 53 | 7 | 37 | 28 | 49 | 6 | 85 | 3 | 41 | 2 | 484 | 112 | 596 | |
| Fox Sparrow | 4 | | 1 | 4 | 11 | 14 | 28 | 15 | 143 | 25 | 28 | 53 | 60 | 9 | 51 | 22 | 11 | 54 | 257 | 49 | 164 | 14 | 181 | 19 | 939 | 278 | 1217 | |
| Song Sparrow | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | 1 | |
| Lincoln's Sparrow | 16 | 14 | 30 | 29 | 39 | 42 | 42 | 91 | 51 | 108 | 23 | 124 | 120 | 74 | 27 | 57 | 32 | 99 | 60 | 89 | 66 | 80 | 193 | 34 | 699 | 841 | 1540 | |
| Swamp Sparrow | | 4 | | 6 | 4 | 9 | 2 | 7 | 1 | 33 | 4 | 40 | 5 | 21 | 5 | 29 | | 17 | 6 | 20 | 7 | 16 | 6 | 2 | 40 | 204 | 244 | |
| White-throated Sparrow | 2 | 4 | 19 | 6 | 20 | 33 | 9 | 30 | 14 | 27 | 18 | 22 | 14 | 9 | 14 | 10 | 7 | 22 | 12 | 26 | 17 | 23 | 10 | 7 | 156 | 219 | 375 | |
| White-crowned Sparrow | 6 | 1 | 7 | 3 | 6 | 9 | 184 | 11 | 269 | 13 | 14 | 22 | 217 | 10 | 138 | 5 | 64 | 26 | 262 | 15 | 68 | 16 | 263 | 4 | 1498 | 135 | 1633 | |
| Golden-crowned Sparrow | | | | | 2 | | 6 | 1 | 4 | | 2 | | 14 | 1 | 3 | | 3 | | 1 | | 3 | 1 | 6 | | 44 | 3 | 47 | |
| Vesper Sparrow | | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | | 1 | |
| Dark-eyed "Slate-colored" Junco | 3 | 4 | 15 | 65 | 20 | 39 | 194 | 44 | 42 | 585 | 70 | 179 | 334 | 81 | 48 | 39 | 15 | 96 | 57 | 50 | 109 | 91 | 263 | 6 | 1170 | 1279 | 2449 | |
| Dark-eyed "Oregon" Junco | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | | 1 | |
| Dark-eyed Junco | | | | | | | | | | | | | 4 | | | | 1 | | 2 | 3 | 2 | | 2 | | 11 | 3 | 14 | |
| Western Tanager | | | 1 | | | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 2 | | 2 | 3 | | 1 | 2 | 1 | 7 | 1 | | 12 | 20 | 32 | |
| Rose-breasted Grosbeak | | | | | | | | ✓ | | | | | ✓ | | | | | | ✓ | | | | ✓ | | | | | |
| Red-winged Blackbird | | | | | | | ✓ | ✓ | 7 | ✓ | 8 | ✓ | 4 | ✓ | 2 | ✓ | 2 | ✓ | 1 | ✓ | 8 | ✓ | 1 | ✓ | 33 | | 33 | |
| Yellow-headed Blackbird | | | | | | | | | | | | | | | | | | | | | ✓ | | | | | | | |
| Rusty Blackbird | 2 | 2 | | 1 | 5 | 10 | 5 | 12 | 37 | 15 | 81 | 35 | 14 | 31 | 47 | 9 | 1 | 10 | 3 | 26 | 57 | 4 | 80 | 5 | 332 | 160 | 492 | |
| Brown-headed Cowbird | | | | | 1 | ✓ | | | | ✓ | ✓ | | 4 | | 1 | | | 2 | | ✓ | ✓ | ✓ | 3 | | 10 | 1 | 11 | |
| Pine Grosbeak | | | | | | | | | | | 2 | | | | | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | | 2 | 2 | |
| Purple Finch | 5 | | 9 | | 11 | | 10 | 3 | 8 | 11 | 8 | | 5 | 1 | 9 | | 4 | | 14 | ✓ | 8 | ✓ | 3 | | 94 | 15 | 109 | |

| Species | 2001 | | 2002 | | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | | TOTAL BANDED | | | |
|------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------------|-------|-------|--|
| | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | ALL | |
| Red Crossbill | | | | | | | | | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| White-winged Crossbill | | | | | | | ✓ | ✓ | | 7 | 16 | ✓ | ✓ | 12 | ✓ | ✓ | ✓ | 1 | ✓ | 10 | ✓ | 2 | ✓ | ✓ | 16 | 32 | 48 | |
| Common Redpoll | | | | | | | 68 | | 2 | | 46 | 1 | 12 | | 54 | 14 | ✓ | ✓ | 127 | ✓ | 1 | 1 | 58 | | 368 | 16 | 384 | |
| Pine Siskin | | | 6 | 4 | 2 | 31 | 2 | 5 | | ✓ | | ✓ | ✓ | ✓ | 2 | ✓ | ✓ | ✓ | ✓ | 41 | ✓ | 28 | 2 | 34 | 14 | 143 | 157 | |
| TOTAL BIRDS BANDED | 251 | 147 | 625 | 540 | 1152 | 1021 | 2265 | 1839 | 1867 | 2681 | 2701 | 2585 | 2799 | 2502 | 2087 | 1676 | 1576 | 2013 | 2623 | 1770 | 1920 | 1964 | 4133 | 703 | 23999 | 19441 | 43440 | |
| TOTAL SPECIES BANDED | 26 | 27 | 35 | 35 | 44 | 40 | 46 | 48 | 47 | 48 | 49 | 45 | 53 | 52 | 51 | 42 | 39 | 40 | 46 | 48 | 48 | 54 | 57 | 40 | 80 | 76 | 90 | |
| TOTAL SPECIES OBSERVED | - | - | - | - | - | - | 103 | 87 | 85 | 87 | 111 | 87 | 125 | 104 | 120 | 88 | 107 | 86 | 112 | 106 | 118 | 107 | 116 | 70 | - | - | 162 | |

Table 2. Birds banded during the spring of 2012.

| Common Name | Latin Name | Spring | | Common Name | Latin Name | Spring | |
|---------------------------|--------------------------------|----------|--------------------------|--------------------------|----------------------------------|----------|--------------------------|
| | | # Banded | # Banded / 100 Net Hours | | | # Banded | # Banded / 100 Net Hours |
| Sharp-shinned Hawk | <i>Accipiter striatus</i> | 1 | 0.02 | American Redstart | <i>Setophaga ruticilla</i> | 15 | 0.33 |
| Sora | <i>Porzana carolina</i> | 1 | 0.02 | Black-and-white Warbler | <i>Mniotilta varia</i> | 1 | 0.02 |
| Spotted Sandpiper | <i>Actitis macularius</i> | 2 | 0.04 | Magnolia Warbler | <i>Setophaga magnolia</i> | 2 | 0.04 |
| Solitary Sandpiper | <i>Tringa solitaria</i> | 6 | 0.13 | Yellow Warbler | <i>Setophaga petechia</i> | 485 | 10.72 |
| Wilson's Snipe | <i>Gallinago delicata</i> | 1 | 0.02 | Blackpoll Warbler | <i>Setophaga striata</i> | 107 | 2.37 |
| Belted Kingfisher | <i>Ceryle alcyon</i> | 1 | 0.02 | Yellow-rumped Warbler | <i>Setophaga coronata</i> | 571 | 12.62 |
| Yellow-bellied Sapsucker | <i>Sphyrapicus varius</i> | 14 | 0.31 | Wilson's Warbler | <i>Cardellina pusilla</i> | 259 | 5.73 |
| Northern Flicker | <i>Colaptes auratus</i> | 1 | 0.02 | Western Tanager | <i>Piranga ludoviciana</i> | 1 | 0.02 |
| Olive-sided Flycatcher | <i>Contopus cooperi</i> | 4 | 0.09 | American Tree Sparrow | <i>Spizella arborea</i> | 571 | 12.62 |
| Yellow-bellied Flycatcher | <i>Empidonax flaviventris</i> | 1 | 0.02 | Chipping Sparrow | <i>Spizella passerina</i> | 2 | 0.04 |
| Alder Flycatcher | <i>Empidonax alnorum</i> | 79 | 1.75 | Savannah Sparrow | <i>Passerculus sandwichensis</i> | 41 | 0.91 |
| Least Flycatcher | <i>Empidonax minimus</i> | 3 | 0.07 | Fox Sparrow | <i>Passerella iliaca</i> | 181 | 4.00 |
| Hammond's Flycatcher | <i>Empidonax hammondii</i> | 12 | 0.27 | Lincoln's Sparrow | <i>Melospiza lincolnii</i> | 193 | 4.27 |
| Say's Phoebe | <i>Sayornis saya</i> | 4 | 0.09 | Swamp Sparrow | <i>Melospiza georgiana</i> | 6 | 0.13 |
| Warbling Vireo | <i>Vireo gilvus</i> | 1 | 0.02 | White-throated Sparrow | <i>Zonotrichia albicollis</i> | 10 | 0.22 |
| Gray Jay | <i>Perisoreus canadensis</i> | 3 | 0.07 | White-crowned Sparrow | <i>Zonotrichia leucophrys</i> | 263 | 5.81 |
| Tree Swallow | <i>Tachycineta bicolor</i> | 7 | 0.15 | Golden-crowned Sparrow | <i>Zonotrichia atricapilla</i> | 6 | 0.13 |
| Boreal Chickadee | <i>Poecile hudsonicus</i> | 5 | 0.11 | Dark-eyed Junco | <i>Junco hyemalis</i> | 265 | 5.86 |
| Ruby-crowned Kinglet | <i>Regulus calendula</i> | 94 | 2.08 | Lapland Longspur | <i>Calcarius lapponicus</i> | 1 | 0.02 |
| Gray-cheeked Thrush | <i>Catharus minimus</i> | 16 | 0.35 | Red-winged Blackbird | <i>Agelaius phoeniceus</i> | 1 | 0.02 |
| Swainson's Thrush | <i>Catharus ustulatus</i> | 82 | 1.81 | Rusty Blackbird | <i>Euphagus carolinus</i> | 80 | 1.77 |
| Hermit Thrush | <i>Catharus guttatus</i> | 16 | 0.35 | Brown-headed Cowbird | <i>Molothrus ater</i> | 3 | 0.07 |
| American Robin | <i>Turdus migratorius</i> | 21 | 0.46 | Purple Finch | <i>Carpodacus purpureus</i> | 3 | 0.07 |
| Varied Thrush | <i>Ixoreus naevius</i> | 10 | 0.22 | Common Redpoll | <i>Acanthis flammea</i> | 58 | 1.28 |
| American Pipit | <i>Anthus rubescens</i> | 1 | 0.02 | Pine Siskin | <i>Spinus pinus</i> | 2 | 0.04 |
| Bohemian Waxwing | <i>Bomycilla garrulus</i> | 1 | 0.02 | TOTAL INDIVIDUALS | | 4,133 | - |
| Northern Waterthrush | <i>Parkesia noveboracensis</i> | 166 | 3.67 | TOTAL SPECIES | | 57 | - |
| Ovenbird | <i>Seiurus aurocapilla</i> | 1 | 0.02 | | | | |
| Tennessee Warbler | <i>Oreothlypis peregrina</i> | 78 | 1.72 | | | | |
| Orange-crowned Warbler | <i>Oreothlypis celata</i> | 288 | 6.37 | | | | |
| Common Yellowthroat | <i>Geothlypis trichas</i> | 86 | 1.90 | | | | |

Table 3. Top 25 species banded during the spring of 2012, 2011, 2010, 2009, 2008, and 2007.

| Species | 2012 | | 2011 | | 2010 | | 2009 | | 2008 | | 2007 | |
|---------------------------------|-------|-----|------|-----|--------|-----|--------|-----|------|-----|--------|-----|
| | Rank | # | Rank | # | Rank | # | Rank | # | Rank | # | Rank | # |
| American Tree Sparrow | T - 1 | 571 | 13 | 63 | 6 | 136 | 12 | 28 | 8 | 74 | 2 | 345 |
| Yellow-rumped "Myrtle" Warbler | T - 1 | 571 | 2 | 217 | 1 | 776 | 1 | 505 | 1 | 434 | 9 | 113 |
| Yellow Warbler | 3 | 485 | 1 | 334 | 8 | 65 | 5 | 96 | 3 | 208 | 4 | 261 |
| Orange-crowned Warbler | 4 | 288 | 10 | 75 | 5 | 177 | 3 | 170 | 2 | 339 | 5 | 251 |
| White-crowned Sparrow | 5 | 263 | 11 | 68 | 2 | 262 | 7 | 64 | 5 | 138 | 6 | 217 |
| Dark-eyed "Slate-colored" Junco | 6 | 263 | 6 | 109 | T - 12 | 57 | 12 | 15 | 12 | 48 | 3 | 334 |
| Wilson's Warbler | 7 | 259 | 4 | 125 | 4 | 249 | 2 | 274 | 4 | 182 | 1 | 369 |
| Lincoln's Sparrow | 8 | 193 | 12 | 66 | 11 | 60 | 11 | 32 | 16 | 27 | 8 | 120 |
| Fox Sparrow | 9 | 181 | 3 | 164 | 3 | 257 | 15 | 11 | 11 | 51 | 13 | 60 |
| Northern Waterthrush | 10 | 166 | 9 | 81 | 9 | 65 | 4 | 113 | 15 | 31 | 7 | 145 |
| Blackpoll Warbler | 11 | 107 | 5 | 121 | 10 | 62 | 6 | 65 | 6 | 88 | 14 | 57 |
| Ruby-crowned Kinglet | 12 | 94 | 15 | 40 | 15 | 42 | - | 0 | 7 | 88 | 11 | 75 |
| Common Yellowthroat | 13 | 86 | 7 | 102 | T - 12 | 57 | 7 | 35 | 14 | 46 | 10 | 85 |
| Swainson's Thrush | 14 | 82 | 16 | 35 | 16 | 29 | 13 | 19 | 19 | 15 | 15 | 55 |
| Rusty Blackbird | 15 | 80 | 14 | 57 | 31 | 3 | T - 33 | 1 | 13 | 47 | T - 20 | 14 |

Table 2. Summary statistics of the 2012 spring season.

| Week | Date | Days Operated | Birds Banded | | | | Total Species Observed |
|------|----------------|---------------|--------------|---------|-----------|-----------------|------------------------|
| | | | # | Species | Net Hours | #/100 Net Hours | |
| 1 | 21 – 27 Apr | 6 | 447 | 10 | 490.75 | 91.08 | 43 |
| 2 | 28 Apr – 4 May | 6 | 912 | 22 | 601.35 | 151.66 | 55 |
| 3 | 5 – 11 May | 6 | 453 | 30 | 763.75 | 59.31 | 58 |
| 4 | 12 – 18 May | 6 | 650 | 29 | 779.50 | 83.39 | 75 |
| 5 | 19 – 25 May | 7 | 737 | 38 | 855.75 | 86.12 | 88 |
| 6 | 26 May – 1 Jun | 7 | 865 | 30 | 697.50 | 124.01 | 107 |
| 7 | 2 – 8 Jun | 4 | 69 | 15 | 335.50 | 20.57 | 71 |
| ALL | | 42 | 4,133 | 57 | 4,524.10 | 91.36 | 115 |

Table 5. Summary of spring 2012 daily estimated total data.

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|-----------------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Red-throated Loon | 1 | 1 | 29-May | - | 1 | - |
| Common Loon | 14 | 15 | 10-May | 5-Jun | 2 | 22-May |
| Greater White-fronted Goose | 5 | 301 | 25-Apr | 2-May | 233 | 30-Apr |
| Canada Goose | 38 | 361 | 21-Apr | 5-Jun | 74 | 28-Apr |
| Trumpeter Swan | 29 | 65 | 21-Apr | 8-Jun | 6 | 7-May |
| Tundra Swan | 9 | 2304 | 22-Apr | 12-May | 1145 | 30-Apr |
| American Wigeon | 18 | 173 | 26-Apr | 24-May | 62 | 6-May |
| Mallard | 42 | 504 | 21-Apr | 5-Jun | 82 | 26-Apr |
| Blue-winged Teal | 1 | 1 | 30-May | - | 1 | - |
| Northern Shoveler | 14 | 47 | 29-Apr | 29-May | 8 | 22-May |
| Northern Pintail | 15 | 217 | 24-Apr | 18-May | 90 | 28-Apr |
| American Green-winged Teal | 29 | 70 | 25-Apr | 8-Jun | 4 | many days |
| <i>Unidentified Dabbling Duck</i> | 7 | 484 | 23-Apr | 3-May | 135 | 1-May |
| Ring-necked Duck | 21 | 66 | 23-Apr | 7-Jun | 6 | many days |
| Lesser Scaup | 1 | 1 | 30-May | - | 1 | - |
| <i>Unidentified Scaup</i> | 1 | 2 | 2-May | - | 2 | - |
| Bufflehead | 5 | 13 | 6-May | 8-Jun | 4 | 6, 7 May |
| Common Goldeneye | 23 | 60 | 22-Apr | 1-Jun | 6 | 1, 2 May |
| Barrow's Goldeneye | 8 | 14 | 16-May | 4-Jun | 2 | many days |
| <i>Unidentified Goldeneye</i> | 7 | 14 | 29-May | 8-Jun | 3 | many days |
| <i>Unidentified Diving Duck</i> | 2 | 32 | 8-May | 15-May | 18 | 15-May |
| Common Merganser | 3 | 5 | 25-May | 1-Jun | 3 | 25-May |
| <i>Undientified Duck</i> | 1 | 45 | 16-May | - | 45 | - |
| Bald Eagle | 11 | 12 | 24-Apr | 31-May | 2 | 31-May |
| Northern Harrier | 19 | 34 | 22-Apr | 28-May | 4 | 28-Apr |
| Sharp-shinned Hawk | 7 | 7 | 21-Apr | 5-Jun | 1 | all days |
| Northern Goshawk | 1 | 1 | 31-May | - | 1 | - |
| Red-tailed Hawk | 2 | 3 | 23-Apr | 1-Jun | 2 | 1-Jun |
| American Kestrel | 28 | 35 | 22-Apr | 5-Jun | 2 | many days |
| Merlin | 3 | 3 | 24-Apr | 29-Apr | 1 | all days |
| Ruffed Grouse | 25 | 27 | 25-Apr | 31-May | 2 | 13, 14 May |

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|--------------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Spruce Grouse | 5 | 7 | 29-Apr | 2-Jun | 3 | 29-Apr |
| Sora | 14 | 14 | 2-May | 8-Jun | 1 | all days |
| American Coot | 5 | 11 | 6-May | 12-May | 3 | many days |
| Semi-palmated Plover | 3 | 3 | 21-May | 24-May | 1 | all days |
| Killdeer | 6 | 6 | 25-May | 4-Jun | 1 | all days |
| Greater Yellowlegs | 17 | 17 | 30-Apr | 7-Jun | 1 | all days |
| Lesser Yellowlegs | 27 | 35 | 25-Apr | 5-Jun | 3 | 2-May |
| Solitary Sandpiper | 29 | 57 | 7-May | 8-Jun | 4 | 14-May |
| Spotted Sandpiper | 67 | 9 | 16-May | 1-Jun | 2 | 16, 22 May |
| Semi-palmated Sandpiper | 1 | 2 | 20-May | - | 2 | - |
| Least Sandpiper | 4 | 6 | 16-May | 26-May | 3 | 16-May |
| Pectoral Sandpiper | 1 | 50 | 16-May | - | 50 | - |
| Long-billed Dowitcher | 2 | 11 | 16-May | 26-May | 10 | 16-May |
| Wilson's Snipe | 38 | 92 | 28-Apr | 8-Jun | 15 | 30-Apr |
| Red-necked Phalarope | 2 | 6 | 16-May | 19-May | 4 | 19-May |
| <i>Unidentified Shorebird</i> | 1 | 67 | 16-May | - | 67 | - |
| Mew Gull | 7 | 12 | 7-May | 6-Jun | 2 | many days |
| Herring Gull | 9 | 17 | 5-May | 18-May | 4 | 12-May |
| Bonaparte's Gull | 3 | 6 | 13-May | 18-May | 2 | all days |
| <i>Unidentified Gull</i> | 1 | 1 | 29-Apr | - | 1 | - |
| Barred Owl | 31 | 31 | 23-Apr | 5-Jun | 1 | all days |
| Belted Kingfisher | 25 | 30 | 22-Apr | 8-Jun | 2 | many days |
| Yellow-bellied Sapsucker | 33 | 122 | 1-May | 8-Jun | 7 | 13-May |
| Hairy Woodpecker | 4 | 4 | 21-Apr | 27-May | 1 | all days |
| American Three-toed Woodpecker | 3 | 3 | 25-May | 2-Jun | 1 | all days |
| Northern Flicker | 34 | 45 | 30-Apr | 8-Jun | 2 | many days |
| Pileated Woodpecker | 8 | 8 | 20-May | 8-Jun | 1 | all days |
| <i>Unidentified Woodpecker</i> | 3 | 3 | 2-May | 5-May | 1 | all days |
| Olive-sided Flycatcher | 10 | 12 | 5-May | 8-Jun | 2 | 31 May / 4 Jun |
| Western Wood-Pewee | 5 | 5 | 26-May | 4-Jun | 1 | all days |
| Yellow-bellied Flycatcher | 3 | 4 | 30-May | 8-Jun | 2 | 8-Jun |
| Alder Flycatcher | 18 | 124 | 21-May | 8-Jun | 18 | 27-May |

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|---------------------------|-----------|-----------|------------|-----------|----------------|--------------------|
| Least Flycatcher | 12 | 13 | 25-May | 8-Jun | 2 | 27-May |
| Hammond's Flycatcher | 19 | 23 | 1-May | 29-May | 3 | 6-May |
| Say's Phoebe | 6 | 7 | 2-May | 23-May | 2 | 9-May |
| Blue-headed Vireo | 1 | 1 | 27-May | - | 1 | - |
| Warbling Vireo | 18 | 57 | 21-May | 8-Jun | 5 | many days |
| <i>Unidentified Vireo</i> | 1 | 1 | 22-May | - | 1 | - |
| Gray Jay | 35 | 90 | 21-Apr | 8-Jun | 6 | 18-May |
| American Crow | 7 | 8 | 23-Apr | 8-Jun | 2 | 23-Apr |
| Common Raven | 45 | 159 | 21-Apr | 8-Jun | 25 | 24-Apr |
| Tree Swallow | 33 | 156 | 1-May | 8-Jun | 10 | 22-May |
| Violet-green Swallow | 11 | 32 | 20-May | 7-Jun | 10 | 22-May |
| Bank Swallow | 14 | 84 | 21-May | 8-Jun | 10 | 27, 28, 30, 31 May |
| Cliff Swallow | 10 | 170 | 14-May | 8-Jun | 20 | 22, 24 May |
| Barn Swallow | 4 | 5 | 21-May | 8-Jun | 2 | 29-May |
| Black-capped Chickadee | 39 | 73 | 21-Apr | 8-Jun | 4 | many days |
| Boreal Chickadee | 25 | 44 | 21-Apr | 4-Jun | 4 | 12-May |
| Red-breasted Nuthatch | 5 | 5 | 14-May | 4-Jun | 1 | all days |
| Ruby-crowned Kinglet | 43 | 188 | 21-Apr | 6-Jun | 16 | 29-Apr |
| Gray-cheeked Thrush | 10 | 18 | 15-May | 1-Jun | 5 | 21-May |
| Swainson's Thrush | 28 | 128 | 3-May | 8-Jun | 28 | 16-May |
| Hermit Thrush | 26 | 38 | 30-Apr | 6-Jun | 5 | 5-May |
| American Robin | 43 | 199 | 22-Apr | 8-Jun | 36 | 23-Apr |
| Varied Thrush | 39 | 68 | 22-Apr | 8-Jun | 12 | 25-Apr |
| American Pipit | 12 | 14 | 21-Apr | 30-May | 3 | 16-May |
| Bohemian Waxwing | 36 | 164 | 24-Apr | 8-Jun | 25 | 30-Apr |
| Lapland Longspur | 23 | 54 | 22-Apr | 22-May | 6 | 1-May |
| Tennessee Warbler | 17 | 143 | 22-May | 8-Jun | 28 | 27-May |
| Orange-crowned Warbler | 31 | 383 | 1-May | 8-Jun | 84 | 8-May |
| Yellow Warbler | 27 | 597 | 15-May | 8-Jun | 155 | 27-May |
| Magnolia Warbler | 5 | 5 | 24-May | 6-Jun | 1 | all days |
| Cape May Warbler | 9 | 9 | 28-May | 8-Jun | 1 | all days |
| Yellow-rumped Warbler | 41 | 839 | 21-Apr | 8-Jun | 135 | 21-May |

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|-------------------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Townsend's Warbler | 4 | 4 | 24-May | 1-Jun | 1 | all days |
| Blackpoll Warbler | 19 | 134 | 13-May | 5-Jun | 34 | 22-May |
| Black-and-white Warbler | 1 | 1 | 26-May | - | 1 | - |
| American Redstart | 17 | 68 | 22-May | 8-Jun | 6 | 30-May |
| Ovenbird | 1 | 1 | 25-May | - | 1 | - |
| Northern Waterthrush | 30 | 280 | 7-May | 8-Jun | 38 | 15-May |
| Common Yellowthroat | 24 | 183 | 13-May | 8-Jun | 21 | 22-May |
| Wilson's Warbler | 28 | 309 | 30-Apr | 8-Jun | 75 | 26-May |
| American Tree Sparrow | 33 | 1066 | 21-Apr | 27-May | 150 | 26-Apr |
| Chipping Sparrow | 5 | 7 | 22-May | 6-Jun | 3 | 31-May |
| Savannah Sparrow | 23 | 48 | 24-Apr | 31-May | 5 | 18-May |
| Fox Sparrow | 32 | 238 | 21-Apr | 27-May | 63 | 2-May |
| Lincoln's Sparrow | 41 | 279 | 21-Apr | 8-Jun | 32 | 15-May |
| Swamp Sparrow | 26 | 37 | 3-May | 8-Jun | 3 | 25-May |
| White-throated Sparrow | 27 | 75 | 8-May | 8-Jun | 5 | 29-May |
| White-crowned Sparrow | 34 | 494 | 23-Apr | 2-Jun | 105 | 2-May |
| Golden-crowned Sparrow | 7 | 11 | 12-May | 27-May | 4 | 21-May |
| Slate-colored Junco | 41 | 476 | 21-Apr | 6-Jun | 58 | 23-Apr |
| <i>Unidentified Dark-eyed Junco</i> | 1 | 2 | 22-May | - | 2 | - |
| Western Tanager | 2 | 2 | 22-May | 1-Jun | 1 | both days |
| Rose-breasted Grosbeak | 2 | 2 | 31-May | 1-Jun | 1 | both days |
| Red-winged Blackbird | 38 | 98 | 23-Apr | 8-Jun | 8 | 1-Jun |
| Rusty Blackbird | 43 | 633 | 21-Apr | 8-Jun | 130 | 26-Apr |
| Brown-headed Cowbird | 20 | 54 | 18-May | 8-Jun | 7 | 1-Jun |
| Pine Grosbeak | 2 | 3 | 13-May | 19-May | 2 | 19-May |
| Purple Finch | 35 | 49 | 25-Apr | 8-Jun | 4 | 8-Jun |
| Red Crossbill | 1 | 4 | 4-Jun | - | 4 | - |
| White-winged Crossbill | 3 | 13 | 29-May | 4-Jun | 9 | 29-May |
| Pine Siskin | 13 | 86 | 24-May | 8-Jun | 20 | 4-Jun |
| Common Redpoll | 36 | 397 | 21-Apr | 4-Jun | 40 | 1-May |

Table 6. Summary of spring arrival dates for select species at Albert Creek from 2006 to 2012.

| Species | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2006 to 2011 Average Arrival Date |
|--------------------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|---|
| | <i>21 April</i> | <i>24 April</i> | <i>22 April</i> | <i>11 May</i> | <i>24 April</i> | <i>23 April</i> | <i>23 April</i> | |
| Station Opening Date | <i>21 April</i> | <i>24 April</i> | <i>22 April</i> | <i>11 May</i> | <i>24 April</i> | <i>23 April</i> | <i>23 April</i> | |
| Solitary Sandpiper | 7 May | 3 May | 10 May | - | 12 May | 11 May | 4 May | 8 May |
| Yellow-bellied Sapsucker | 1 May | 6 May | 24 Apr | - | 9 May | 2 May | 24 April | 1 May |
| Alder Flycatcher | 21 May | 20 May | 26 May | 21 May | 26 May | 23 May | 23 May | 23 May |
| Least Flycatcher | 25 May | 18 May | 29 May | 4 Jun | 26 May | 22 May | 23 May | 25 May |
| Hammond's Flycatcher | 1 May | 13 May | 2 May | - | 12 May | 14 May | 7 May | 9 May |
| Warbling Vireo | 21 May | 21 May | 16 May | 21 May | 20 May | 19 May | 20 May | 19 May |
| Gray-cheeked Thrush | 15 May | - | 15 May | 23 May | 16 May | 11 May | 14 May | 15 May |
| Swainson's Thrush | 3 May | 10 May | 16 May | 19 May | 11 May | 11 May | 14 May | 13 May |
| Tennessee Warbler | 22 May | 16 May | 24 May | 26 May | 25 May | 24 May | 23 May | 23 May |
| Orange-crowned Warbler | 1 May | 6 May | 24 Apr | - | 3 May | 28 Apr | 26 April | 29 Apr |
| Yellow Warbler | 15 May | 15 May | 17 May | 20 May | 18 May | 18 May | 14 May | 17 May |
| Cape May Warbler | 28 May | 26 May | 30 May | 26 May | 26 May | 28 May | 1 June | 28 May |
| Yellow-rumped Warbler | 21 Apr | 30 Apr | 21 Apr | - | 30 Apr | 23 Apr | 24 April | 25 Apr |
| Blackpoll Warbler | 13 May | 10 May | 15 May | 23 May | 9 May | 16 May | 14 May | 14 May |
| American Redstart | 22 May | 21 May | 26 May | 29 May | 27 May | 27 May | 27 May | 26 May |
| Northern Waterthrush | 7 May | 9 May | 10 May | - | 10 May | 5 May | 7 May | 8 May |
| Common Yellowthroat | 13 May | 15 May | 13 May | 20 May | 10 May | 11 May | 15 May | 14 May |
| Wilson's Warbler | 30 Apr | 8 May | 10 May | - | 3 May | 11 May | 6 May | 7 May |
| Savannah Sparrow | 24 Apr | 3 May | 29 Apr | - | 29 Apr | 23 Apr | 27 April | 28 Apr |
| Swamp Sparrow | 3 May | 16 May | 5 May | 22 May | 9 May | 5 May | 12 May | 11 May |
| White-throated Sparrow | 8 May | 15 May | 1 May | 18 May | 10 May | 15 May | 7 May | 11 May |
| Red-winged Blackbird | 23 Apr | 3 May | 27 Apr | - | 3 May | 3 May | 28 April | 30 Apr |

Table 7. Birds banded during the fall of 2012.

| Common Name | Latin Name | Spring | | Common Name | Latin Name | Spring | |
|---------------------------|-------------------------------|----------|--------------------------|------------------------|----------------------------------|----------|--------------------------|
| | | # Banded | # Banded / 100 Net Hours | | | # Banded | # Banded / 100 Net Hours |
| Blue-winged Teal | <i>Anas discors</i> | 2 | 0.08 | Northern Waterthrush | <i>Parkesia noveboracensis</i> | 93 | 3.84 |
| Sharp-shinned Hawk | <i>Accipiter striatus</i> | 2 | 0.08 | Tennessee Warbler | <i>Oreothlypis peregrina</i> | 5 | 0.21 |
| Wilson's Snipe | <i>Gallinago delicata</i> | 2 | 0.08 | Orange-crowned Warbler | <i>Oreothlypis celata</i> | 36 | 1.49 |
| Belted Kingfisher | <i>Ceryle alcyon</i> | 1 | 0.04 | Common Yellowthroat | <i>Geothlypis trichas</i> | 68 | 2.81 |
| Yellow-bellied Sapsucker | <i>Sphyrapicus varius</i> | 4 | 0.17 | American Redstart | <i>Setophaga ruticilla</i> | 17 | 0.70 |
| Western Wood-Pewee | <i>Contopus sordidulus</i> | 1 | 0.04 | Magnolia Warbler | <i>Setophaga magnolia</i> | 8 | 0.33 |
| Yellow-bellied Flycatcher | <i>Empidonax flaviventris</i> | 1 | 0.04 | Yellow Warbler | <i>Setophaga petechia</i> | 29 | 1.20 |
| Alder Flycatcher | <i>Empidonax alnorum</i> | 36 | 1.49 | Blackpoll Warbler | <i>Setophaga striata</i> | 23 | 0.95 |
| Least Flycatcher | <i>Empidonax minimus</i> | 9 | 0.37 | Yellow-rumped Warbler | <i>Setophaga coronata</i> | 89 | 3.68 |
| Hammond's Flycatcher | <i>Empidonax hammondii</i> | 8 | 0.33 | Wilson's Warbler | <i>Cardellina pusilla</i> | 42 | 1.74 |
| Warbling Vireo | <i>Vireo gilvus</i> | 8 | 0.33 | American Tree Sparrow | <i>Spizella arborea</i> | 2 | 0.08 |
| Gray Jay | <i>Perisoreus canadensis</i> | 2 | 0.08 | Savannah Sparrow | <i>Passerculus sandwichensis</i> | 2 | 0.08 |
| Black-capped Chickadee | <i>Poecile atricapillus</i> | 9 | 0.37 | Fox Sparrow | <i>Passerella iliaca</i> | 19 | 0.79 |
| Boreal Chickadee | <i>Poecile hudsonicus</i> | 2 | 0.08 | Lincoln's Sparrow | <i>Melospiza lincolnii</i> | 34 | 1.41 |
| Red-breasted Nuthatch | <i>Sitta canadensis</i> | 2 | 0.08 | Swamp Sparrow | <i>Melospiza georgiana</i> | 2 | 0.08 |
| Ruby-crowned Kinglet | <i>Regulus calendula</i> | 51 | 2.11 | White-throated Sparrow | <i>Zonotrichia albicollis</i> | 7 | 0.29 |
| Gray-cheeked Thrush | <i>Catharus minimus</i> | 2 | 0.08 | White-crowned Sparrow | <i>Zonotrichia leucophrys</i> | 4 | 0.17 |
| Swainson's Thrush | <i>Catharus ustulatus</i> | 31 | 1.28 | Dark-eyed Junco | <i>Junco hyemalis</i> | 6 | 0.25 |
| American Robin | <i>Turdus migratorius</i> | 4 | 0.17 | Rusty Blackbird | <i>Euphagus carolinus</i> | 5 | 0.21 |
| Varied Thrush | <i>Ixoreus naevius</i> | 1 | 0.04 | Pine Siskin | <i>Spinus pinus</i> | 34 | 1.41 |
| TOTAL INDIVIDUALS | | | | | | 703 | - |
| TOTAL SPECIES | | | | | | 40 | - |

Table 8. Summary statistics of the 2012 fall season.

| Week | Date | Days Operated | Birds Banded | | | | Total Species Observed |
|------|-------------------------|---------------|--------------|---------|-----------|-----------------|------------------------|
| | | | # | Species | Net Hours | #/100 Net Hours | |
| 1 | 6 – 12 August | 3 | 147 | 25 | 328.25 | 44.78 | 44 |
| 2 | 13 – 19 August | 1 | 57 | 18 | 96.00 | 59.38 | 34 |
| 3 | 20 – 26 August | 5 | 219 | 30 | 620.75 | 35.28 | 52 |
| 4 | 27 August – 2 September | 7 | 239 | 30 | 987.25 | 24.21 | 45 |
| 5 | 3 – 9 September | 3 | 41 | 13 | 387.50 | 10.58 | 23 |
| | ALL | 19 | 703 | 40 | 2419.75 | 29.05 | 70 |

Table 9. Summary of fall 2012 daily estimated total data.

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|-----------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Common Loon | 11 | 15 | 19-Aug | 3-Sep | 2 | many days |
| Red-necked Grebe | 1 | 51 | 24-Aug | - | 51 | - |
| Greater White-fronted Goose | 3 | 126 | 25-Aug | 27-Aug | 121 | 26-Aug |
| Canada Goose | 10 | 156 | 21-Aug | 2-Sep | 75 | 27-Aug |
| Trumpeter Swan | 1 | 1 | 19-Aug | - | 1 | - |
| American Wigeon | 1 | 4 | 7-Aug | - | 4 | - |
| Mallard | 16 | 104 | 6-Aug | 4-Sep | 28 | 19-Aug |
| Blue-winged Teal | 6 | 11 | 21-Aug | 28-Aug | 5 | 28-Aug |
| Northern Pintail | 2 | 6 | 20-Aug | 24-Aug | 5 | 24-Aug |
| American Green-winged Teal | 2 | 4 | 7-Aug | 19-Aug | 2 | both days |
| <i>Unidentified Teal</i> | 2 | 5 | 25-Aug | 30-Aug | 3 | 25-Aug |
| Common Goldeneye | 1 | 2 | 19-Aug | - | 2 | - |
| Bald Eagle | 1 | 1 | 25-Aug | - | 1 | - |
| Northern Harrier | 2 | 2 | 25-Aug | 4-Sep | 1 | both days |
| Sharp-shinned Hawk | 6 | 6 | 21-Aug | 5-Sep | 1 | all days |
| Northern Goshawk | 1 | 1 | 24-Aug | - | 1 | - |
| Ruffed Grouse | 2 | 2 | 6-Aug | 7-Aug | 1 | both days |
| Sora | 3 | 3 | 19-Aug | 24-Aug | 1 | all days |
| Least Sandpiper | 1 | 1 | 24-Aug | - | 1 | - |
| Wilson's Snipe | 9 | 17 | 7-Aug | 3-Sep | 3 | many days |
| <i>Unidentified Gull</i> | 1 | 2 | 25-Aug | - | 2 | - |

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|--------------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Barred Owl | 1 | 1 | 28-Aug | - | 1 | - |
| Belted Kingfisher | 14 | 17 | 6-Aug | 3-Sep | 2 | 25,26,27 Aug |
| Yellow-bellied Sapsucker | 6 | 8 | 6-Aug | 3-Sep | 3 | 20-Aug |
| Hairy Woodpecker | 3 | 3 | 19-Aug | 26-Aug | 1 | all days |
| American Three-toed Woodpecker | 10 | 11 | 19-Aug | 4-Sep | 2 | 27-Aug |
| Northern Flicker | 2 | 2 | 20-Aug | 27-Aug | 2 | both days |
| Pileated Woodpecker | 1 | 1 | 7-Aug | - | 1 | - |
| <i>Unidentified Woodpecker</i> | 1 | 1 | 7-Aug | - | 1 | - |
| Western Wood-Pewee | 1 | 1 | 6-Aug | - | 1 | - |
| Yellow-bellied Flycatcher | 2 | 2 | 6-Aug | 19-Aug | 1 | both days |
| Alder Flycatcher | 10 | 47 | 6-Aug | 28-Aug | 8 | 24-Aug |
| Least Flycatcher | 6 | 9 | 6-Aug | 28-Aug | 4 | 7-Aug |
| Hammond's Flycatcher | 3 | 5 | 6-Aug | 24-Aug | 2 | 6, 7 Aug |
| <i>Unidentified Flycatcher</i> | 1 | 1 | 27-Aug | - | 1 | - |
| Warbling Vireo | 11 | 20 | 6-Aug | 2-Sep | 4 | 6-Aug |
| Gray Jay | 9 | 22 | 6-Aug | 2-Sep | 5 | 1-Sep |
| American Crow | 1 | 1 | 28-Aug | - | 1 | - |
| Common Raven | 14 | 26 | 7-Aug | 5-Sep | 4 | 31-Aug |
| Tree Swallow | 2 | 3 | 7-Aug | 8-Aug | 2 | 7-Aug |
| Cliff Swallow | 3 | 28 | 6-Aug | 8-Aug | 18 | 6-Aug |
| Black-capped Chickadee | 15 | 44 | 6-Aug | 5-Sep | 6 | many days |
| Boreal Chickadee | 11 | 23 | 8-Aug | 5-Sep | 4 | 1-Sep |
| Red-breasted Nuthatch | 5 | 7 | 7-Aug | 28-Aug | 2 | 20, 27 Aug |
| Ruby-crowned Kinglet | 15 | 63 | 6-Aug | 5-Sep | 10 | 27-Aug |
| Gray-cheeked Thrush | 2 | 2 | 30-Aug | 31-Aug | 1 | both days |
| Swainson's Thrush | 14 | 42 | 19-Aug | 3-Sep | 13 | 24-Aug |
| American Robin | 14 | 37 | 6-Aug | 4-Sep | 10 | 27-Aug |
| Varied Thrush | 3 | 5 | 8-Aug | 27-Aug | 2 | 26, 27 aug |
| American Pipit | 2 | 2 | 19-Aug | 26-Aug | 1 | both days |
| Cedar Waxwing | 4 | 6 | 19-Aug | 24-Aug | 2 | 21, 24 Aug |
| <i>Unidentified Waxwing</i> | 1 | 1 | 7-Aug | - | 1 | - |
| Lapland Longspur | 1 | 1 | 27-Aug | - | 1 | - |

| Species | # of Days | Bird Days | First Date | Last Date | High Count (#) | High Count (date) |
|------------------------|-----------|-----------|------------|-----------|----------------|-------------------|
| Tennessee Warbler | 3 | 6 | 6-Aug | 31-Aug | 4 | 6-Aug |
| Orange-crowned Warbler | 9 | 35 | 21-Aug | 3-Sep | 10 | 30-Aug |
| Yellow Warbler | 14 | 35 | 6-Aug | 3-Sep | 8 | 24-Aug |
| Magnolia Warbler | 6 | 8 | 7-Aug | 26-Aug | 3 | 8-Aug |
| Yellow-rumped Warbler | 17 | 172 | 6-Aug | 5-Sep | 28 | 26-Aug |
| Blackpoll Warbler | 9 | 27 | 6-Aug | 28-Aug | 11 | 24-Aug |
| American Redstart | 6 | 26 | 6-Aug | 25-Aug | 10 | 7-Aug |
| Northern Waterthrush | 16 | 132 | 6-Aug | 4-Sep | 21 | 6-Aug |
| Common Yellowthroat | 17 | 107 | 6-Aug | 5-Sep | 17 | 27-Aug |
| Wilson's Warbler | 10 | 45 | 7-Aug | 5-Sep | 10 | 24-Aug |
| American Tree Sparrow | 3 | 5 | 1-Sep | 5-Sep | 3 | 3-Sep |
| Savannah Sparrow | 2 | 2 | 7-Aug | 19-Aug | 1 | - |
| Fox Sparrow | 9 | 21 | 6-Aug | 1-Sep | 6 | 30-Aug |
| Lincoln's Sparrow | 14 | 45 | 6-Aug | 5-Sep | 10 | 25-Aug |
| Swamp Sparrow | 3 | 3 | 6-Aug | 1-Sep | 1 | all days |
| White-throated Sparrow | 6 | 9 | 7-Aug | 1-Sep | 3 | 8-Aug |
| White-crowned Sparrow | 4 | 5 | 19-Aug | 28-Aug | 2 | 28-Aug |
| Dark-eyed Junco | 8 | 30 | 8-Aug | 5-Sep | 14 | 27-Aug |
| Red-winged Blackbird | 1 | 1 | 6-Aug | - | 1 | - |
| Rusty Blackbird | 16 | 50 | 6-Aug | 5-Sep | 8 | 19-Aug |
| White-winged Crossbill | 7 | 37 | 7-Aug | 28-Aug | 20 | 27-Aug |
| Pine Siskin | 14 | 169 | 6-Aug | 1-Sep | 24 | 6-Aug |

Table 10. Summary of band repeats during the spring of 2012.

| Species | Spring | |
|---------------------------------|-----------------------------|-----------------------------|
| | # of Individuals Recaptured | % of 2012 Original Bandings |
| Solitary Sandpiper | 1 | 16.7 |
| Yellow-bellied Sapsucker | 1 | 7.1 |
| Hammond's Flycatcher | 3 | 25.0 |
| Say's Phoebe | 1 | 25.0 |
| Gray Jay | 3 | 100.0 |
| Ruby-crowned Kinglet | 1 | 1.1 |
| Gray-cheeked Thrush | 2 | 12.5 |
| Swainson's Thrush | 4 | 4.9 |
| Hermit Thrush | 2 | 12.5 |
| American Robin | 1 | 4.8 |
| Varied Thrush | 1 | 10.0 |
| Northern Waterthrush | 22 | 13.3 |
| Tennessee Warbler | 3 | 3.8 |
| Orange-crowned Warbler | 38 | 13.2 |
| Common Yellowthroat | 6 | 7.0 |
| American Redstart | 1 | 6.7 |
| Yellow Warbler | 23 | 4.7 |
| Yellow-rumped ' Myrtle' Warbler | 26 | 4.6 |
| Wilson's Warbler | 7 | 2.7 |
| American Tree Sparrow | 152 | 26.6 |
| Fox Sparrow | 9 | 5.0 |
| Lincoln's Sparrow | 22 | 11.4 |
| Swamp Sparrow | 1 | 16.7 |
| White-crowned Sparrow | 43 | 16.3 |
| Savannah Sparrow | 2 | 4.9 |
| Slate-colored Junco | 34 | 12.8 |
| Rusty Blackbird | 2 | 2.5 |
| Brown-headed Cowbird | 1 | 33.3 |
| ALL SPECIES | 412 | 9.9 |

Table 11. Summary of band returns during the spring 2012 season.

| Species | Band Number | Banded | | Recaptured |
|--------------------------|-------------|-------------|-----------|-------------|
| | | Date | Age – Sex | Date |
| Yellow-bellied Sapsucker | 2231-21895 | 5 Aug 2010 | AHY - F | 14 May 2012 |
| Yellow-bellied Sapsucker | 2231-27077 | 19 May 2011 | ASY – M | 7 May 2012 |
| Yellow-bellied Sapsucker | 2231-27082 | 21 May 2011 | SY – F | 16 May 2012 |
| Yellow-bellied Sapsucker | 2231-27092 | 23 Jul 2011 | AHY – M | 8 May 2012 |
| Yellow-bellied Sapsucker | 2231-27311 | 2 Sep 2011 | HY – U | 12 May 2012 |
| Warbling Vireo | 2650-54006 | 30 May 2011 | AHY – U | 1 Jun 2012 |
| Warbling Vireo | 2650-56045 | 2 Jun 2011 | SY – U | 2 Jun 2012 |
| Warbling Vireo | 2650-56078 | 23 Jul 2011 | AHY – U | 1 Jun 2012 |
| Warbling Vireo | 2650-56275 | 27 Jul 2011 | AHY – U | 2 Jun 2012 |
| Gray Jay | 1013-51146 | 24 Jul 2011 | HY – U | 8 May 2012 |
| Black-capped Chickadee | 2400-24299 | 1 Sep 2005 | U – U | 23 Apr 2012 |
| Black-capped Chickadee | 2640-17148 | 25 Jul 2010 | HY – U | 21 Apr 2012 |
| Black-capped Chickadee | 2650-56255 | 26 Jul 2011 | HY – U | 25 Apr 2012 |
| Boreal Chickadee | 2400-77109 | 3 Aug 2010 | HY – U | 23 Apr 2012 |
| Boreal Chickadee | 1640-35063 | 29 Apr 2011 | AHY – U | 9 May 2012 |
| Boreal Chickadee | 2650-46307 | 6 May 2011 | ASY – U | 26 Apr 2012 |
| Boreal Chickadee | 2650-46308 | 6 May 2011 | SY - U | 28 Apr 2012 |
| Boreal Chickadee | 2650-54148 | 7 Aug 2011 | HY - U | 28 Apr 2012 |
| Swainson's Thrush | 2261-82112 | 26 Aug 2007 | HY - U | 31 May 2012 |
| Swainson's Thrush | 2341-67862 | 27 May 2011 | ASY – U | 8 Jun 2012 |
| Swainson's Thrush | 2341-67892 | 30 Jul 2011 | HY – U | 29 May 2012 |
| Hermit Thrush | 2341-68186 | 30 May 2010 | SY – U | 13 May 2012 |
| Hermit Thrush | 2341-67513 | 30 Aug 2010 | HY – U | 25 May 2012 |
| Northern Waterthrush | 2640-17066 | 30 May 2010 | SY – U | 25 May 2012 |
| Northern Waterthrush | 2400-77209 | 9 Aug 2010 | AHY – U | 22 May 2012 |
| Tennessee Warbler | 2520-35965 | 24 May 2011 | ASY – M | 27 May 2012 |
| Common Yellowthroat | 2430-39944 | 31 Jul 2006 | HY – U | 21 May 2012 |
| Common Yellowthroat | 2600-08100 | 26 Aug 2009 | AHY - U | 22 May 2012 |
| Common Yellowthroat | 2640-17098 | 6 Jun 2010 | AHY – F | 26 May 2012 |
| Common Yellowthroat | 2640-17123 | 25 Jul 2010 | ASY – M | 25 May 2012 |
| Common Yellowthroat | 2400-77023 | 26 Jul 2010 | AHY – F | 27 May 2012 |
| Common Yellowthroat | 2640-17182 | 26 Jul 2010 | HY – F | 22 May 2012 |
| Common Yellowthroat | 2400-77055 | 28 Jul 2010 | AHY – F | 2 Jun 2012 |
| Common Yellowthroat | 2640-17826 | 23 May 2011 | SY – M | 25 May 2012 |
| Common Yellowthroat | 2640-17992 | 27 May 2011 | SY – M | 22 May 2012 |
| Common Yellowthroat | 2650-56074 | 23 Jul 2011 | HY – M | 26 May 2012 |
| Common Yellowthroat | 2650-56083 | 23 Jul 2011 | AHY – F | 23 May 2012 |
| Common Yellowthroat | 2650-56290 | 28 Jul 2011 | SY – M | 31 May 2012 |
| Common Yellowthroat | 2650-54867 | 1 Sep 2011 | HY – M | 29 May 2012 |
| American Redstart | 2520-37351 | 7 Aug 2011 | AHY – M | 8 Jun 2012 |
| Yellow Warbler | 2640-17050 | 28 May 2010 | ASY – F | 30 May 2012 |
| Yellow Warbler | 2650-56268 | 26 Jul 2011 | HY – U | 29 May 2012 |
| Yellow-rumped Warbler | 2650-56016 | 30 May 2011 | SY – F | 28 May 2012 |
| Yellow-rumped Warbler | 2650-56017 | 30 May 2011 | SY – M | 30 May 2012 |
| Lincoln's Sparrow | 2221-70084 | 28 May 2010 | SY – M | 15 May 2012 |
| Lincoln's Sparrow | 2221-70493 | 28 May 2011 | ASY – U | 23 May 2012 |

| Species | Band Number | Banded | | Recaptured |
|------------------------|-------------|-------------|-----------|-------------|
| | | Date | Age – Sex | Date |
| White-throated Sparrow | 2241-67873 | 1 Jun 2011 | SY – U | 29 May 2012 |
| Red-winged Blackbird | 1292-04412 | 18 May 2011 | ASY – M | 18 May 2012 |
| Purple Finch | 1921-93250 | 27 May 2008 | ASY – M | 2 Jun 2012 |

Table 12. Summary of band returns during the fall 2012 season. Note individuals marked with an asterisk (*) were also recaptured during the spring 2012 season.

| Species | Band Number | Banded | | Recaptured |
|------------------------|-------------|-------------|-----------|-------------|
| | | Date | Age – Sex | Date |
| Sharp-shinned Hawk | 1013-51147 | 30 Jul 2011 | SY – M | 5 Sep 2012 |
| Sharp-shinned Hawk | 1013-51148 | 25 Aug 2011 | HY – M | 25 Aug 2012 |
| Alder Flycatcher | 2650-56252 | 25 Jul 2011 | AHY – U | 6 Aug 2012 |
| Black-capped Chickadee | 2400-24299* | 1 Sep 2005 | U – U | 4 Sep 2012 |
| Black-capped Chickadee | 2640-17188 | 26 Jul 2010 | HY – U | 29 Aug 2012 |
| Black-capped Chickadee | 2650-54460 | 22 Aug 2011 | HY – U | 26 Aug 2012 |
| Boreal Chickadee | 2650-55877 | 12 May 2012 | - | 26 Aug 2012 |
| American Robin | 1292-04530 | 7 May 2012 | - | 20 Aug 2012 |
| Varied Thrush | 1292-04435 | 18 Aug 2011 | HY – U | 26 Aug 2012 |
| Northern Waterthrush | 2640-17066* | 30 May 2010 | ASY – U | 6 Aug 2012 |
| Northern Waterthrush | 2640-17763 | 22 May 2011 | ASY – F | 7 Aug 2012 |
| Northern Waterthrush | 2730-84605 | 23 May 2012 | - | 27 Aug 2012 |
| Northern Waterthrush | 2730-84700 | 26 May 2012 | - | 7 Aug 2012 |
| Tennessee Warbler | 2520-37335 | 6 Aug 2011 | AHY – F | 7 Aug 2012 |
| Common Yellowthroat | 2640-17098* | 6 Jun 2010 | AHY – F | 6 Aug 2012 |
| Common Yellowthroat | 2730-86275 | 31 May 2012 | - | 26 Aug 2012 |
| American Redstart | 2520-37162 | 26 Jul 2011 | ASY – F | 6 Aug 2012 |
| Yellow-rumped Warbler | 2650-56247 | 25 Jul 2011 | HY – U | 5 Sep 2012 |
| Lincoln's Sparrow | 2221-70990 | 25 May 2012 | - | 1 Sep 2012 |
| White-throated Sparrow | 2261-80130 | 27 May 2012 | - | 8 Aug 2012 |

Table 3. Hours spent at the bird observatory by volunteers and paid individuals.

| Season | Paid | | Volunteer | |
|--------|------------------|-------|------------------|-------|
| | # of Individuals | Hours | # of Individuals | Hours |
| Spring | 2 | 391 | 12 | 316 |
| Fall | 1 | 112 | 8 | 191 |

Table 4. Hours spent at the bird observatory by visitors.

| Season | Locals | | Yukon | | Canada | | USA | | Other International | | TOTAL | |
|--------|--------|-------|-------|-------|--------|-------|-----|-------|---------------------|-------|-------|-------|
| | # | Hours | # | Hours | # | Hours | # | Hours | # | Hours | # | Hours |
| Spring | 19 | 35 | 9 | 21 | 4 | 8 | 9 | 14 | 2 | 12 | 43 | 89 |
| Fall | 1 | 2 | - | - | 2 | 6 | 4 | 3 | 2 | 2 | 9 | 13 |