# McIntyre Marsh Bird Banding Demonstration Site - Final Report 2010

***Prepared by:***

Ben Schonewille
Society of Yukon Bird Observatories
2010

The 2010 operation of the McIntyre Marsh Bird Banding Demonstration Site was made possible due to support and financial contributions from the following organizations.












Cover Photo – Male Townsend's Warbler observed at McIntyre Marsh on May 14, 2010.

Society of Yukon Bird Observatories, PO Box 30056, Whitehorse, YT Y1A 5M2
Contact – Ben Schonewille / Ted Murphy-Kelly Email – teslin.bird.banding@gmail.com

## EXECUTIVE SUMMARY

The McIntyre Marsh Bird Banding Demonstration Site completed its second consecutive year of spring operation during 2010. The field station operated for a total of 28 days from April 18 to May 30. A primary objective of this project is to provide a setting for the public to visit and be exposed to the diversity of birds in the Yukon and the methods used to monitor them. The close proximity to downtown Whitehorse makes this possible and serves to attract more visitors than the Teslin Lake and Albert Creek bird observatories which require substantially more travel. The methods used for capturing birds at the site closely follow the protocols used at the other field stations; 12 mist nets are used. During 2010, mist netting resulted in the capture and banding of 1,582 birds of 38 species. The top 5 species banded included the following (from greatest to least); White-crowned Sparrow, Dark-eyed Junco, Yellow-rumped Warbler, Wilson's Warbler and Fox Sparrow. Species associated with wetland breeding habitats were very common during the latter portion of migration, such species included Common Yellowthroat, Lincoln's Sparrow and Northern Waterthrush. The data collected (banding and general observations) continued to reinforce that McIntyre Marsh provides valuable stopover and breeding habitat for birds in the Whitehorse area. In 2010, the station was operated completely by volunteers; 18 individuals totaled 310 volunteer hours. The station was successful in attracting high numbers of visitors; a total of 235 individuals visited the site, totaling over 600 visitor hours. Included in the visitor totals were 7 school groups from various schools in the Whitehorse area.

## ACKNOWLEDGEMENTS

The following list summarizes the individuals who played a role in the 2010 operation of the McIntyre Marsh Bird Banding Demonstration Site.

Ben Schonewille…….Bander In Charge, Station Advertising, Data Entry/Analysis/Reporting
Ted Murphy-Kelly……Secondary Bander In Charge
Tami Hamilton……Bander In Training

Cameron Eckert (YG-Environment), Pam Sinclair (CWS) and Jukka Jantunen provided advice and assisted with project logistics. Board members of the Society of Yukon Bird Observatories helped administer the Yukon Bird Observatories. Yukon Electrical (Richard Kerr) provided access to the site where the station is located.

The following volunteers assisted with the operation of the observatory; over 5 days – John Meikle, Hilary Cooke; less than 5 days – Brian Charles, Mary Whitley, Gerry Whitley, Shayla Hamilton, Ammanda Partirdge, Pam Sinclair, Julie Bauer, Terry Skjonsberg, Rory Masters, Syd Cannings, Debbie van der Wetering and Mike Setterington.

The 2010 operation of the McIntyre Marsh Bird Banding Demonstration Site would not have been possible without financial assistance from the following organizations / groups; Environment Canada (Canadian Wildlife Service), Ducks Unlimited Canada, Alaska Pipeline Project, Yukon Environment, Yukon Energy, Lotteries Yukon, Yukon Bird Club , City of Whitehorse – Environmental Grant and EDI Environmental Dynamics Inc.

## TABLE OF CONTENTS



## LIST OF FIGURES



## LIST OF TABLES

# 1.0 Introduction

The McIntyre Marsh Bird Banding Demonstration Site operated during the spring migration season in 2010. The station completed its second spring season of operation thanks to financial and logistical support from several government and non-government agencies. The station was initiated in the spring of 2009 to provide an easily accessible location for members of the public to receive exposure to migratory birds and the methods used to monitor them.

The goals of the McIntyre Marsh Bird Banding Demonstration Site are to:

- Provide a setting for the public (including school groups) to learn about the Yukon's avifauna and the methods used to monitor songbirds.
- Test the feasibility of operating a bird banding / migration monitoring station at McIntyre Marsh.
- Provide training opportunities for interested members of the public and students.

Bird banding serves as a method of carrying out research on birds which is shared through an international database. This is due to the possibility of a banded bird being recaptured across international borders. Many of the birds banded at McIntyre Marsh are highly migratory spending the winter months as far south as Central and South America. In addition to the potential knowledge regarding band recoveries, the demonstration site also serves to continue gathering baseline data of birds (and their migration) in the southern Yukon. Due to the large landmass of the territory, and the relatively few advanced birders in the Yukon, there is still a great deal to be learned regarding the bird life of the Yukon. Bird banding is a highly valuable research method and a form of monitoring which serves to better understand the distribution of many of the Yukon's bird species, many of which are considered uncommon or rare.

Due to the close proximity to downtown Whitehorse, the demonstration site also 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 demonstration site can be extremely rewarding as they often have the opportunity to view a wide variety of bird species up close. Many of these species are very difficult to observe naturally; however, through the use of mist nets, the highly trained individuals working at the demonstration site have the ability to identify these species with ease.

# 2.0 Methods

As the demonstration site is relatively new and the activities have not yet been standardized, a detailed bird monitoring protocol has not yet been prepared. The primary method of monitoring the movement of birds through the study site is the use of mist nets for the purpose of capturing and banding birds. In 2010, the station operated with 12 mist nets, all of which were constructed of 30 mm mesh. Eleven of the nets were 12 m in length and a single net was 18 m in length. Although mist netting did not always begin at sunrise (which is standard practice for other stations), efforts were made to open the station as early as possible. The number of nets used on a daily basis was determined by a number of factors including bird activity, weather and availability of qualified personnel. Mist nets were checked for birds every 15 to 30 minutes and all birds captured were extracted by qualified individuals. Individual birds were then placed in breathable cloth bags and transported to the central bird processing area.

Once at the processing area, all birds were identified to species and banded with a uniquely numbered leg band. A wide variety of other information was collected from each bird including; age, sex, wing length, fat score, breeding condition, bird status, banding date/time and the bander's initials. Representative photos were also taken from a portion of the birds processed. After all data was collected the bird was promptly released.

To supplement the banding data collection, incidental observations were also recorded for birds within and/or flying over the site. Using the number of birds banded, recaptured and observed, estimated totals were derived for all species observed on each of the station's operation.

As the primary goal of the study is to provide opportunities for the public to become involved, the public was able to partake where possible. Extracting and handling of birds requires extensive experience doing so and therefore the public was not able to handle the birds. However, small groups of people were regularly taken on net rounds to allow them to view up close how birds are captured in the mist nets and extracted. The public was also allowed to actively watch the bird processing procedure and frequently asked questions about the birds and the banding process. At times, members of the public also assisted the bander by scribing the data onto the data sheets.

## *2.1 Study Site*

The station is located at the area known locally as McIntyre Marsh near the junction of the Copper Haul Road and the Fish Lake Road. McIntyre Creek flows through the marsh which has a wide braided channel with numerous areas of standing water. Vegetation in the area is primarily willow with open areas dominated by various grasses and sedges. Large trees are relatively sparse within the mist netting area and are primarily limited to a thin strip of large white spruce along the margin on the study site. A defining characteristic of the site is the presence of standing dead snags within the marsh; likely a result of the beaver dam impoundment of the area in the past.

# 3.0 Results & Discussion

During 2010, 1,582 birds of 38 species were banded and 71 species were observed (Table 1). The all time total number of birds banded at McIntyre Marsh is now 2,474 individuals of 45 species (Appendix 1). Each component of the 2010 data is summarized and presented in the following subsections; however, a detailed account of the 2010 estimated total data is shown in Appendix 2.

Bird captures were highest during the first few weeks of operation. After week 2, bird capture rates progressively decreased until the final week of operation. The high numbers in weeks 1 and 2 were reflective of high numbers of sparrows captured over this time period. There was a notable fallout of sparrows in the southern Yukon in late April of 2010 and this accounts for the high capture rates during this time. Capture rates decreased later during spring migration due to lower capture rates of later migrating species.

**Table 1.** Summary statistics of the 2010 spring season.

| Week | Date | Days Operated | Birds Banded | | | | Total Species Observed |
|---|---|---|---|---|---|---|---|
| | | | # | Species | Net Hours | #/100 Net Hours | |
| 1 | 18 – 24 Apr | 3 | 246 | 13 | 171 | 143.9 | 38 |
| 2 | 25 Apr – 1 May | 5 | 509 | 16 | 255 | 199.6 | 47 |
| 3 | 2 – 8 May | 4 | 191 | 17 | 206 | 92.7 | 40 |
| 4 | 9 – 15 May | 7 | 288 | 21 | 446 | 64.6 | 40 |
| 5 | 16 – 22 May | 5 | 213 | 24 | 356 | 59.8 | 45 |
| 6 | 23 – 29 May | 3 | 110 | 17 | 203 | 54.2 | 44 |
| 7 | 30 May | 1 | 25 | 8 | 88 | 28.4 | 40 |
| ALL | | 28 | 1582 | 38 | 1725 | 91.7 | 71 |

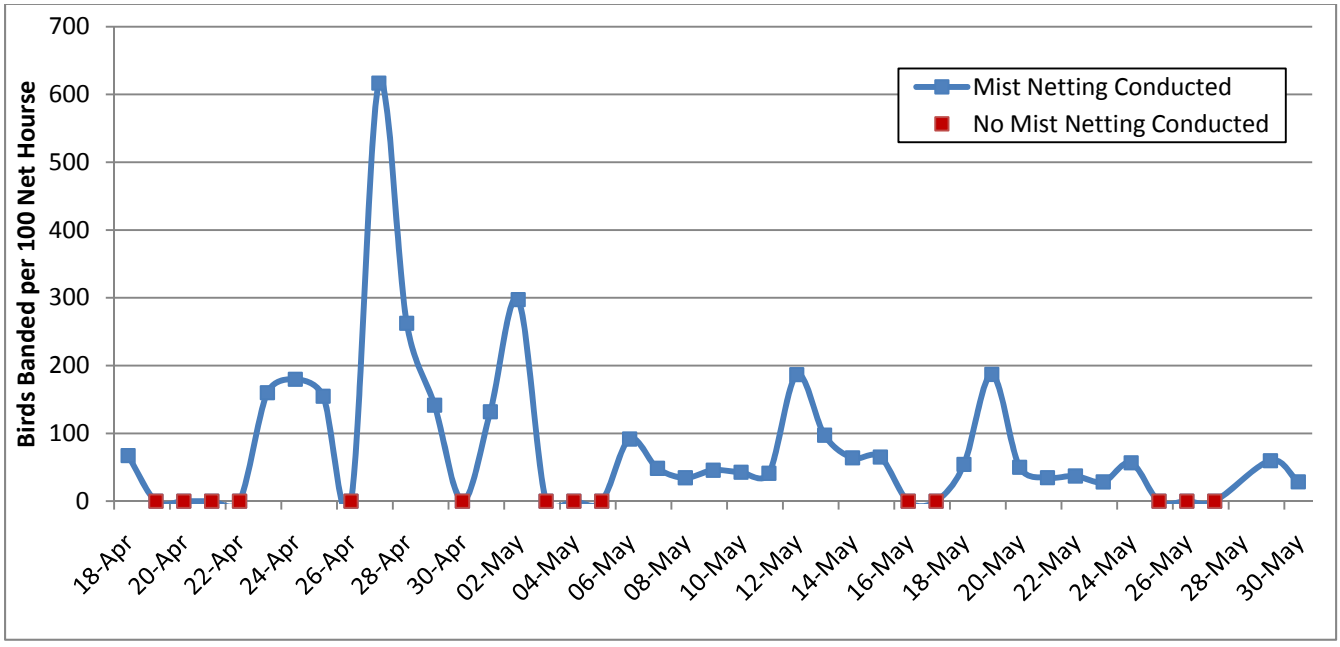


**Figure 1.** Summary of birds banded per 100 net hours during the spring of 2010.

During 2010, the bird capture rates were higher than during 2009. This was primarily due to an influx of sparrows during the early portion of the spring migration. During both years, White-crowned Sparrow was the number one species banded. Among warblers, Yellow-rumped Warbler and Wilson Warbler were the most frequently banded species. Also well represented in the banding catches in both years were species which breed within wetland habitats. For example, Lincoln's Sparrow, Common Yellowthroat and Northern Waterthrush were common species at the site during both years, particularly during the latter portion of the migration season.

**Table 2.** Comparison of top 10 species banded during 2010 and 2009.

| Species | 2010 | | | 2009 | | |
|---|---|---|---|---|---|---|
| | # Banded | # Banded/100 Net hours | Rank | # Banded | # Banded/100 Net hours | Rank |
| White-crowned Sparrow | 342 | 19.83 | 1 | 113 | 8.07 | 1 |
| Dark-eyed Junco | 247 | 14.32 | 2 | 77 | 5.50 | 4 |
| Yellow-rumped Warbler | 212 | 12.29 | 3 | 71 | 5.07 | 5 |
| Wilson's Warbler | 144 | 8.35 | 4 | 57 | 4.07 | 8 |
| Fox Sparrow | 109 | 6.32 | 5 | 6 | 0.43 | T-17 |
| Savannah Sparrow | 83 | 4.81 | 6 | 58 | 4.14 | 7 |
| American Tree Sparrow | 75 | 4.35 | T-7 | 63 | 4.50 | 6 |
| Lincoln's Sparrow | 75 | 4.35 | T-7 | 25 | 1.78 | T-12 |
| Common Yellowthroat | 53 | 3.07 | 8 | 26 | 1.86 | 11 |
| Golden-crowned Sparrow | 34 | 1.97 | 9 | 18 | 1.28 | 13 |
| Common Redpoll | 33 | 1.91 | 10 | 31 | 2.21 | 10 |
| Ruby-crowned Kinglet | 25 | 1.45 | 11 | 5 | 0.36 | T-18 |
| Violet-green Swallow | 22 | 1.28 | 12 | 103 | 7.35 | 2 |
| Orange-crowned Warbler | 16 | 0.93 | T-13 | 9 | 0.64 | T-14 |
| Northern Waterthrush | 16 | 0.93 | T-13 | 8 | 0.57 | T-15 |

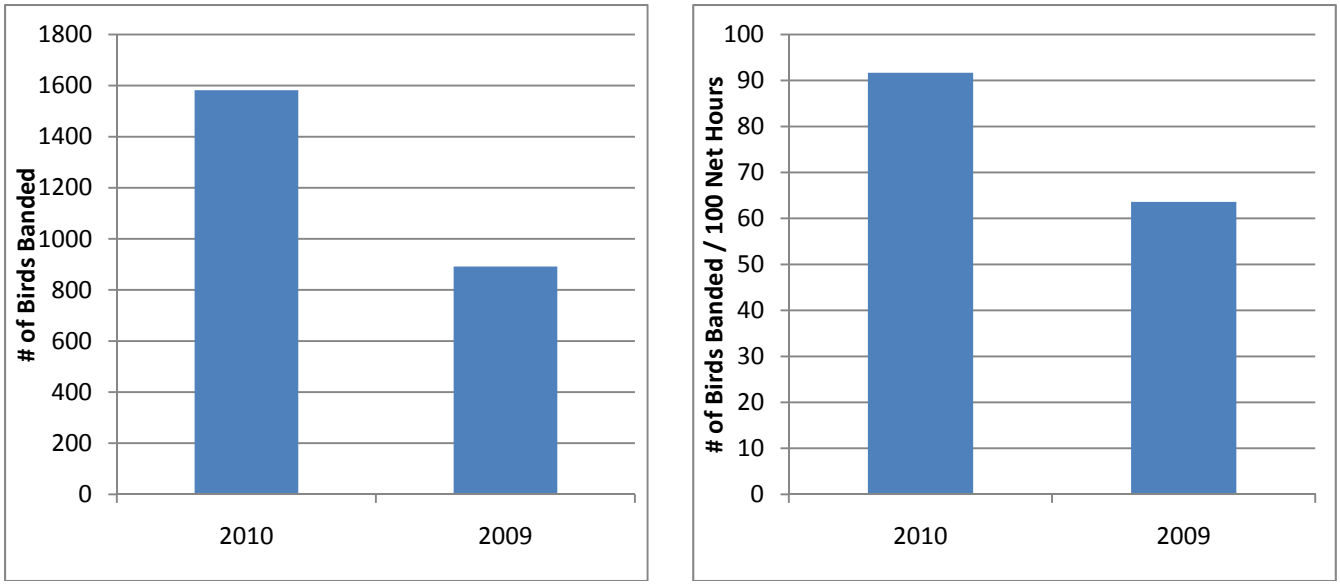


**Figure 2.** Comparison of birds banded (left) and birds banded/100 net hours (right) during 2010 and 2009.

**Table 3.** Birds banded during the spring of 2010.

| Common Name | Latin Name | Individuals Banded | | Common Name | Latin Name | # Banded | |
|---|---|---|---|---|---|---|---|
| | | # | # / 100 Net Hrs | | | # | # / 100 Net Hrs |
| Mallard | *Anas platyrhynhos* | 1 | 0.06 | Savannah Sparrow | *Passerculus sandwichensis* | 83 | 4.81 |
| Sharp-shinned Hawk | *Accipiter striatus* | 3 | 0.17 | Fox Sparrow | *Passerella iliaca* | 109 | 6.32 |
| Solitary Sandpiper | *Tringa solitaria* | 7 | 0.41 | Lincoln's Sparrow | *Melospiza lincolnii* | 75 | 4.35 |
| Spotted Sandpiper | *Actitis macularius* | 1 | 0.06 | White-crowned Sparrow | *Zonotrichia leucophrys* | 342 | 19.83 |
| Wilson's Snipe | *Gallinago delicate* | 8 | 0.46 | Golden-crowned Sparrow | *Zonotrichia atricapilla* | 34 | 1.97 |
| Belted Kingfisher | *Megaceryle alcyon* | 1 | 0.06 | Dark-eyed Junco | *Junco hyemalis* | 247 | 14.32 |
| Olive-sided Flycatcher | *Contopus cooperi* | 1 | 0.06 | Lapland Longspur | *Calcarius lapponicus* | 1 | 0.06 |
| Hammond's Flycatcher | *Empidonax hammondi* | 6 | 0.35 | Red-winged Blackbird | *Agelaius phoeniceus* | 3 | 0.17 |
| Tree Swallow | *Tachycineta bicolor* | 1 | 0.06 | Rusty Blackbird | *Euphagus carolinus* | 11 | 0.64 |
| Violet-green Swallow | *Tachycineta thalassina* | 22 | 1.28 | Common Redpoll | *Acanthis flammea* | 33 | 1.91 |
| Black-capped Chickadee | *Poecile atricapillus* | 4 | 0.23 | Hoary Redpoll | *Acanthis hornemanni* | 1 | 0.06 |
| Boreal Chickadee | *Poecile hudsonicus* | 1 | 0.06 | TOTAL INDIVIDUALS BANDED | | 1582 | 91.71 |
| Ruby-crowned Kinglet | *Regulus calendula* | 25 | 1.45 | TOTAL SPECIES BANDED | | 38 | |
| Swainson's Thrush | *Catharus ustulatus* | 3 | 0.17 | | | | |
| American Robin | *Turdus migratorius* | 15 | 0.87 | | | | |
| Varied Thrush | *Ixoreus neavius* | 2 | 0.12 | | | | |
| American Pipit | *Anthus rubescens* | 6 | 0.35 | | | | |
| Tennessee Warbler | *Oreothlypis peregrina* | 2 | 0.12 | | | | |
| Orange-crowned Warbler | *Oreothlypis celata* | 16 | 0.93 | | | | |
| Yellow Warbler | *Dendroica petechia* | 8 | 0.46 | | | | |
| Yellow-rumped Warbler | *Dendroica coronta* | 212 | 12.29 | | | | |
| Blackpoll Warbler | *Dendroica striata* | 5 | 0.29 | | | | |
| Northern Waterthrush | *Parkesia noveboracensis* | 16 | 0.93 | | | | |
| Common Yellowthroat | *Geothlypis trichas* | 53 | 3.07 | | | | |
| Wilson's Warbler | *Wilsonia pusilla* | 144 | 8.35 | | | | |
| American Tree Sparrow | *Spizella arborea* | 75 | 4.35 | | | | |
| Chipping Sparrow | *Spizella passerina* | 5 | 0.29 | | | | |

## 3.1 Migration Timing

Generalized migration timing for temperate, neotropical and irruptive migrants/residents during the spring of 2010 is presented in Figure 3.[1] In spring, there is a notable difference in migration timing between temperate and neotropical migrants. The peak in temperate migrant capture rates was during the first week of operation. The capture of neotropical migrants was substantially lower than that of the temperate migrants; however, there was a notable peak in neotropical migrants during week 6.

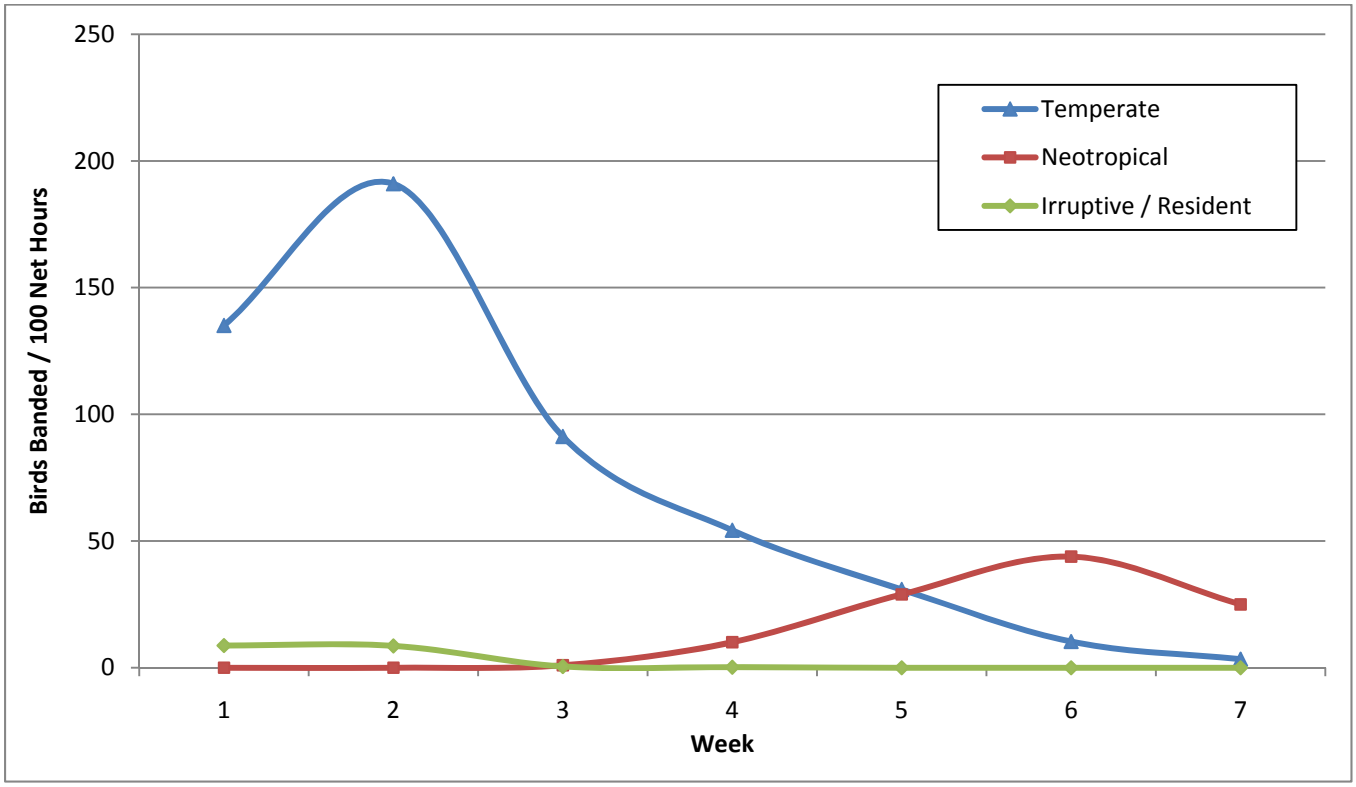


**Figure 3.** Migration timing for temperate, neotropical and irruptive migrants/residents banded during the spring of 2010.

For species which are encountered regularly during spring migration, it is possible to investigate arrival dates between years through a combination of available banding and general observation data (Table 4). Most species show a high degree of consistency in arrival dates between years. However, there is a small degree of variation between years which is likely a result of varying weather conditions between years. For example, many species were recorded relatively earlier during the spring of 2010, presumably due to the warm and early spring. Additional data collection in future years will allow for a more detailed analysis of arrival dates at the study site.

[1] Temperate migrants are species which primarily overwinter in the temperate zone of North America (i.e., north of Mexico). Neotropical migrants include species which overwinter in the tropics (i.e., south of the USA). Irruptive migrants/residents are those species which migrate irregularly or may be year round residents in the Yukon.

**Table 4.** Summary of spring arrival dates for select species at McIntyre Marsh in 2009 and 2010.

| Species | Spring Arrival Dates | | Species | Spring Arrival Dates | |
|---|---|---|---|---|---|
| | 2010 | 2009 | | 2010 | 2009 |
| **Station Opening Date** | **18 April** | **18 April** | **Station Opening Date** | **18 April** | **18 April** |
| Solitary Sandpiper | 10 May | 9 May | Wilson's Warbler | 8 May | 3 May |
| Lesser Yellowlegs | 28 April | 3 May | Savannah Sparrow | 28 April | 2 May |
| Hammond's Flycatcher | 24 April | 2 May | Fox Sparrow | 23 April | 3 May |
| Swainson's Thrush | 21 May | 27 May | Lincoln's Sparrow | 24 April | 2 May |
| Orange-crowned Warbler | 1 May | 12 May | White-crowned Sparrow | 23 April | 2 May |
| Yellow Warbler | 18 May | 24 May | Golden-crowned Sparrow | 24 April | 2 May |
| Yellow-rumped Warbler | 24 April | 2 May | Lapland Longspur | 1 May | 18 April |
| Blackpoll Warbler | 20 May | 27 May | Red-winged Blackbird | 2 May | 2 May |
| Northern Waterthrush | 18 May | 13 May | Rusty Blackbird | 23 April | 2 May |
| Common Yellowthroat | 18 May | 23 May | | | |

## *3.2 Band Returns & Recoveries*

Band returns (individuals banded at the site in previous years) typically represent individuals which breed within the study site as the likelihood of re-trapping migrants is relatively low. During 2010, the station had 15 band returns representing 9 species (Table 5). As the station is relatively new, all band returns were of birds banded at the site during 2009. Species very well represented in the band returns provide an indication of the breeding birds at McIntyre Marsh. Common Yellowthroat, Yellow-rumped Warbler and Lincoln's Sparrow are likely among the most common breeding bird species within and adjacent to the study site.

**Table 5.** Summary of band returns during the spring and fall 2010 seasons.

| Species | Band Number | Banded | | Recaptured |
|---|---|---|---|---|
| | | Date | Age – Sex | Date |
| Black-capped Chickadee | 2580-39836 | 18 Apr 09 | SY – U | 18 Apr 10 |
| Boreal Chickadee | 2580-39990 | 10 May 09 | AHY – F | 25 Apr 10 |
| American Robin | 1232-25977 | 17 May 09 | ASY – M | 13 May 10 |
| Yellow Warbler | 2560-32151 | 1 Jun 09 | ASY – M | 29 May 10 |
| Yellow-rumped Warbler | 2560-32139 | 30 May 09 | AHY – F | 24 May 10 |
| Yellow-rumped Warbler | 2580-39919 | 2 May 09 | ASY – F | 19 May 10 |
| Yellow-rumped Warbler | 2580-39973 | 8 May 09 | ASY – M | 14 May 10 |
| Common Yellowthroat | 2560-32104 | 23 May 09 | ASY – M | 22 May 10 |
| Common Yellowthroat | 2560-32126 | 26 May 09 | AHY – M | 18 May 10 |
| Common Yellowthroat | 2560-32129 | 27 May 09 | ASY – M | 29 May 10 |
| Common Yellowthroat | 2560-32130 | 30 May 09 | ASY – M | 21 May 10 |
| Wilson's Warbler | 2180-38555 | 30 May 09 | ASY – M | 22 May 10 |
| Lincoln's Sparrow | 2311-81826 | 23 May 09 | AHY – M | 29 May 10 |
| Lincoln's Sparrow | 2311-81833 | 26 May 09 | AHY – M | 22 May 10 |
| Red-winged Blackbird | 8001-81387 | 23 May 09 | ASY – F | 20 May 10 |

Foreign band recoveries are a very infrequent event; to date there has been one foreign band recovery at the station. A Yellow-rumped "Myrtle" Warbler banded in Portland, Oregon in March 2008 was recaptured at McIntyre Marsh on May 4, 2009 and subsequently released alive. Although not a foreign

band recovery, a SY male Rusty Blackbird banded by Pam Sinclair at the Whitehorse Landfill in the fall of 2009 was recaptured and released alive at McIntyre Marsh on May 10, 2010.

## 3.3 Rusty Blackbirds

As part of an ongoing project in co-operation with Pam Sinclair (CWS-Whitehorse), Albert Creek Bird Observatory and Teslin Lake Bird Observatory all Rusty Blackbirds captured were fitted with color bands (dark green) in addition to the regular numbered leg band. The rationale for color banding individuals is to potentially increase re-sightings of banded individuals.

Additionally, a feather was collected from each Rusty Blackbird captured. Feather samples will be analyzed for stable isotopes in an effort to make linkages between breeding and wintering grounds used by this species. The Rusty Blackbirds banded during 2010 are summarized in the following table.

**Table 6.** Summary of Rusty Blackbirds banded at McIntyre Marsh during 2010.

| Season | After Hatch Year | | After Second Year | | Second Year | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Spring | - | 4 | 4 | 1 | - | 2 |

## 3.4 Species At Risk

Monitoring of species at risk is important throughout the species range and this is even more critical in more remote areas with limited monitoring information. During 2010, 2 designated species at risk (Table 7, **Error! Reference source not found.**) and 5 priority species for assessment (Table 8, **Error! Reference source not found.**) were encountered.

**Table 7.** Summary of COSEWIC designated species encountered during the spring of 2010.

| Species | COSEWIC Designation[1] | # Banded | # of Days Observed | High Count (#-date) | Total Bird Days |
|---|---|---|---|---|---|
| Horned Grebe | Special Concern | - | 1 | 1 – 15 May | 1 |
| Olive-sided Flycatcher | Threatened | 1 | 1 | 1 – 15 May | 9 |
| Rusty Blackbird | Special Concern | 23 | 20 | 12 – 24 Apr | 75 |

[1]http://www.cosewic.gc.ca

**Table 8.** Summary of COSEWIC priority species encountered during the spring of 2010.

| Species | Priority for COSEWIC Assessment[1] | # Banded | # of Days Observed | High Count (#-date) | Total Bird Days |
|---|---|---|---|---|---|
| Bank Swallow | High | - | 5 | 6 – 19 May | 11 |
| American Kestrel | Mid | - | 1 | 1 – 10 May | 1 |
| Belted Kingfisher | Mid | 1 | 22 | 3 – 19 May | 39 |
| Boreal Chickadee | Low | 1 | 17 | 2 – many days | 20 |

[1]http://www.cosewic.gc.ca

## 3.9 Visitors and Volunteers

The demonstration site was very successful in attracting visitors during 2010, in total 235 different individuals visited the site and totaled over 600 visitor hours (Table 9). Included in the visitor totals were 7 school groups from the Whitehorse area who visited the site. These visitor numbers are very high as compared to the Teslin Lake and Albert Creek bird observatories which typically total 100 to 150 visitor hours per year. Through the demonstration site, it is possible to increase the public awareness of migratory birds and why it is important to conserve them and their habitats.

During 2010, the operation of the demonstration site was completed solely by volunteers. Aside from providing visitor opportunities, the station also provides an opportunity for volunteer involvement. Individuals willing to attend the station on a number of occasions have the opportunity to receive training in the techniques used to capture and band birds (under the supervision of permitted/qualified individuals).

**Table 9.** Summary of volunteer and visitor hours at McIntyre Marsh in 2010.

| Volunteers | | Visitors | |
|---|---|---|---|
| **# of Individuals** | **Hours** | **# of Individuals** | **Hours** |
| 18 | 305 | 235 | 601 |

**Photo 1.** Bander in Training Tami Hamilton allows some young visitors to get a close look at an American Tree Sparrow.

# 4.0 Photos

The photos shown in this section are examples of species banded at the site during 2010 (all photos taken by Ben Schonewille).

**Photo 2.** Male Sharp-shinned Hawk.

**Photo 3.** Olive-sided Flycatcher.

**Photo 4.** Male American Robin.

**Photo 5.** Male Yellow-rumped Warbler.

**Photo 6.** Male Common Yellowthroat.

**Photo 7.** Male Wilson's Warbler.

**Photo 8.** Fox Sparrow.

**Photo 9.** Savannah Sparrow.

**Photo 10.** White-crowned Sparrow.

**Photo 11.** Golden-crowned Sparrow.

**Photo 12.** Male Dark-eyed Junco.

**Photo 13.** Male Rusty Blackbird.

# 5.0 Conclusion & Recommendations

The bird monitoring data collected at the demonstration site have continued to reinforce that McIntyre Marsh is an important stopover and breeding habitat for migratory birds within the City of Whitehorse. The productive marsh habitat and diversity of nearby habitats provide suitable habitat for a high diversity of birds. Although the total number of birds banded is less than that of the Teslin Lake and Albert Creek bird observatories, these results are not directly comparable. The demonstration site operates with far fewer mist nets and is not open on a daily basis. If these protocols were to be mimicked at McIntyre Marsh, the number and diversity of birds banded would likely increase substantially.

The number of visitors and total visit hours totaled at the site in 2010 are representative of the value of the demonstration site as a public education opportunity. Individuals who visit the site leave with an increased understanding of the Yukon's bird life and a level of environmental stewardship which has a positive effect well beyond the conservation of birds. For children who visit the site, having the opportunity to see songbirds "up close and personal" often has a lasting effect and may lead to a future appreciation of our natural surroundings.

## *5.1 Recommendations*

For 2011, it is hoped that adequate personnel and resources can be made available for the operation of the demonstration site during the spring migration season. If possible, it would be advantageous to operate the station on more days during the migration period to boost the number of visitors and school groups which may visit the site. More extensive coverage would also increase the utility of the bird monitoring data collected. If possible, efforts should also be made to include some sort of standardized monitoring protocol for the station. This may include the collection of observations outside of the immediate mist netting area through methods such as a fixed duration census route or point count locations.

## APPENDIX 1 –ALL TIME BANDING TOTALS

| Species | 2009 | | 2010 | | ALL TIME BANDING TOTAL |
|---|---|---|---|---|---|
| | # Banded | # Banded/100 Net Hrs | # Banded | # Banded/100 Net Hrs | |
| Mallard | | | 1 | 0.06 | 1 |
| American Green-winged Teal | 4 | 0.29 | | | 4 |
| Sharp-shinned Hawk | 1 | 0.07 | 3 | 0.17 | 4 |
| Solitary Sandpiper | 7 | 0.50 | 7 | 0.41 | 14 |
| Spotted Sandpiper | | | 1 | 0.06 | 1 |
| Lesser Yellowlegs | 1 | 0.07 | | | 1 |
| Wilson's Snipe | 5 | 0.36 | 8 | 0.46 | 13 |
| Belted Kingfisher | 1 | 0.07 | 1 | 0.06 | 2 |
| Olive-sided Flycatcher | | | 1 | 0.06 | 1 |
| Hammond's Flycatcher | 6 | 0.43 | 6 | 0.35 | 12 |
| Northern Shrike | 1 | 0.07 | | | 1 |
| Tree Swallow | 89 | 6.35 | 1 | 0.06 | 90 |
| Violet-green Swallow | 103 | 7.35 | 22 | 1.28 | 125 |
| Black-capped Chickadee | 8 | 0.57 | 4 | 0.23 | 12 |
| Mountain Chickadee | 2 | 0.14 | | | 2 |
| Boreal Chickadee | 9 | 0.64 | 1 | 0.06 | 10 |
| Ruby-crowned Kinglet | 5 | 0.36 | 25 | 1.45 | 30 |
| Swainson's Thrush | 1 | 0.07 | 3 | 0.17 | 4 |
| American Robin | 6 | 0.43 | 15 | 0.87 | 21 |
| Varied Thrush | | | 2 | 0.12 | 2 |
| American Pipit | 4 | 0.29 | 6 | 0.35 | 10 |
| Tennessee Warbler | | | 2 | 0.12 | 2 |
| Orange-crowned Warbler | 9 | 0.64 | 16 | 0.93 | 25 |
| Yellow Warbler | 3 | 0.21 | 8 | 0.46 | 11 |
| Yellow-rumped (Myrtle) Warbler | 70 | 5.00 | 212 | 12.29 | 282 |
| Yellow-rumped (Integrade) Warbler | 2 | 0.14 | | | 2 |
| Blackpoll Warbler | | | 5 | 0.29 | 5 |
| Northern Waterthrush | 8 | 0.57 | 16 | 0.93 | 24 |
| Common Yellowthroat | 26 | 1.86 | 53 | 3.07 | 79 |
| Wilson's Warbler | 57 | 4.07 | 144 | 8.35 | 201 |
| American Tree Sparrow | 63 | 4.50 | 75 | 4.35 | 138 |
| Chipping Sparrow | | | 5 | 0.29 | 5 |
| Savannah Sparrow | 58 | 4.14 | 83 | 4.81 | 141 |
| Fox Sparrow | 6 | 0.43 | 109 | 6.32 | 115 |
| Lincoln's Sparrow | 25 | 1.78 | 75 | 4.35 | 100 |
| White-crowned Sparrow | 113 | 8.07 | 342 | 19.83 | 455 |
| Golden-crowned Sparrow | 18 | 1.28 | 34 | 1.97 | 52 |
| Dark-eyed (Slate-colored) Junco | 77 | 5.50 | 247 | 14.32 | 324 |
| Lapland Longspur | 39 | 2.78 | 1 | 0.06 | 40 |

| Species | 2009 | | 2010 | | ALL TIME BANDING TOTAL |
|---|---|---|---|---|---|
| | # Banded | # Banded/100 Net Hrs | # Banded | # Banded/100 Net Hrs | |
| Red-winged Blackbird | 5 | 0.36 | 3 | 0.17 | 8 |
| Rusty Blackbird | 25 | 1.78 | 11 | 0.64 | 36 |
| Purple Finch | 1 | 0.07 | | | 1 |
| Common Redpoll | 31 | 2.21 | 33 | 1.91 | 64 |
| Hoary Redpoll | | | 1 | 0.06 | 1 |
| Pine Siskin | 3 | 0.21 | | | 3 |
| TOTAL INDIVIDUALS | 892 | 63.67 | 1,582 | 91.71 | 79.14 |
| TOTAL SPECIES | 37 | | 38 | | 45 |

## APPENDIX 2 –ESTIMATED TOTAL SUMMARY

| Species | Bird Days | # of Days Recorded | High Count | | First Date Recorded | Last Date Recorded |
|---|---|---|---|---|---|---|
| Horned Grebe | 1 | 1 | 1 | - | 15-May | NA |
| Canada Goose | 8 | 1 | 8 | - | 24-Apr | NA |
| Trumpeter Swan | 13 | 3 | 8 | 24-Apr | 18-Apr | 25-Apr |
| Tundra Swan | 117 | 4 | 95 | 24-Apr | 18-Apr | 25-Apr |
| American Wigeon | 14 | 4 | 6 | 01-May | 01-May | 15-May |
| Mallard | 178 | 28 | 14 | 01-May | 18-Apr | 30-May |
| Northern Shoveler | 4 | 1 | 4 | - | 01-May | NA |
| Northern Pintail | 4 | 2 | 3 | 01-May | 01-May | 02-May |
| American Green-winged Teal | 144 | 23 | 12 | 08-May | 28-Apr | 30-May |
| Common Goldeneye | 2 | 2 | 1 | - | 25-Apr | 01-May |
| Barrow's Goldeneye | 67 | 27 | 4 | many days | 18-Apr | 30-May |
| Ruffed Grouse | 3 | 3 | 1 | - | 10-May | 15-May |
| Bald Eagle | 55 | 28 | 3 | many days | 18-Apr | 30-May |
| American Kestrel | 1 | 1 | 1 | - | 10-May | NA |
| Northern Harrier | 16 | 9 | 5 | 24-Apr | 18-Apr | 15-May |
| Sharp-shinned Hawk | 6 | 6 | 1 | - | 25-Apr | 23-May |
| Red-tailed Hawk | 2 | 2 | 1 | - | 18-Apr | 24-Apr |
| Spotted Sandpiper | 3 | 3 | 1 | - | 18-May | 24-May |
| Solitary Sandpiper | 14 | 8 | 2 | many days | 10-May | 30-May |
| Lesser Yellowlegs | 32 | 20 | 3 | 09-May | 28-Apr | 30-May |
| Wilson's Snipe | 115 | 26 | 9 | 24-May | 18-Apr | 30-May |
| Mew Gull | 19 | 9 | 4 | 02-May | 24-Apr | 24-May |
| Herring Gull | 118 | 27 | 10 | 02-May | 18-Apr | 30-May |
| Belted Kingfisher | 39 | 22 | 3 | 19-May | 24-Apr | 30-May |
| Hairy Woodpecker | 4 | 4 | 1 | - | 25-Apr | 09-May |
| American Three-toed Woodpecker | 6 | 6 | 1 | - | 24-Apr | 30-May |
| Northern Flicker | 29 | 22 | 2 | many days | 24-Apr | 30-May |
| Olive-sided Flycatcher | 1 | 1 | 1 | 15 May | 15 May | NA |
| Alder Flycatcher | 1 | 1 | 1 | - | 30-May | NA |
| Hammond's Flycatcher | 16 | 13 | 2 | many days | 24-Apr | 30-May |

| Species | Bird Days | # of Days Recorded | High Count | | First Date Recorded | Last Date Recorded |
|---|---|---|---|---|---|---|
| Gray Jay | 27 | 17 | 3 | 21-May | 24-Apr | 30-May |
| Black-billed Magpie | 1 | 1 | 1 | - | 23-Apr | NA |
| Common Raven | 102 | 27 | 7 | 24-May | 18-Apr | 30-May |
| Tree Swallow | 226 | 24 | 25 | 19-May | 24-Apr | 30-May |
| Violet-green Swallow | 587 | 27 | 275 | 19-May | 18-Apr | 30-May |
| Bank Swallow | 11 | 5 | 6 | 19-May | 18-May | 30-May |
| Barn Swallow | 1 | 1 | 1 | - | 30-May | NA |
| Cliff Swallow | 10 | 6 | 3 | 19-May | 19-May | 30-May |
| Black-capped Chickadee | 37 | 23 | 2 | many days | 18-Apr | 30-May |
| Boreal Chickadee | 20 | 17 | 2 | many days | 18-Apr | 30-May |
| Golden-crowned Kinglet | 5 | 5 | 1 | - | 18-Apr | 22-May |
| Ruby-crowned Kinglet | 72 | 27 | 15 | 24-Apr | 18-Apr | 30-May |
| Townsend's Solitaire | 1 | 1 | 1 | - | 28-Apr | NA |
| Swainson's Thrush | 9 | 5 | 3 | 30-May | 21-May | 30-May |
| Gray-cheeked Thrush | 1 | 1 | 1 | - | 18-May | NA |
| American Robin | 150 | 27 | 8 | 24-May | 18-Apr | 30-May |
| Varied Thrush | 27 | 19 | 4 | 09-May | 24-Apr | 30-May |
| American Pipit | 58 | 13 | 16 | 09-May | 24-Apr | 19-May |
| Bohemian Waxwing | 15 | 4 | 6 | 24-Apr | 24-Apr | 01-May |
| Tennessee Warbler | 4 | 2 | 3 | 30-May | 29-May | 30-May |
| Orange-crowned Warbler | 41 | 17 | 4 | 15-May | 01-May | 29-May |
| Yellow Warbler | 19 | 8 | 6 | 30-May | 18-May | 30-May |
| Yellow-rumped Warbler | 445 | 26 | 62 | 19-May | 24-Apr | 30-May |
| Blackpoll Warbler | 17 | 7 | 6 | 24-May | 20-May | 30-May |
| Townsend's Warbler | 2 | 2 | 1 | - | 14-May | 19-May |
| Northern Waterthrush | 36 | 9 | 10 | 24-May | 18-May | 30-May |
| Common Yellowthroat | 98 | 9 | 25 | 29-May | 18-May | 30-May |
| Wilson's Warbler | 249 | 17 | 39 | 19-May | 08-May | 30-May |
| American Tree Sparrow | 127 | 11 | 36 | 24-Apr | 18-Apr | 07-May |
| Chipping Sparrow | 9 | 2 | 6 | 29-May | 29-May | 30-May |

| Species | Bird Days | # of Days Recorded | High Count | | First Date Recorded | Last Date Recorded |
|---|---|---|---|---|---|---|
| Savannah Sparrow | 133 | 21 | 22 | 13-May | 28-Apr | 30-May |
| Fox Sparrow | 246 | 12 | 77 | 25-Apr | 23-Apr | 29-May |
| Lincoln's Sparrow | 146 | 25 | 13 | 09-May | 24-Apr | 30-May |
| White-crowned Sparrow | 585 | 26 | 120 | 02-May | 23-Apr | 30-May |
| Golden-crowned Sparrow | 62 | 16 | 13 | 14-May | 24-Apr | 15-May |
| Dark-eyed Junco | 481 | 28 | 130 | 24-Apr | 18-Apr | 30-May |
| Lapland Longspur | 128 | 7 | 65 | 02-May | 01-May | 12-May |
| Red-winged Blackbird | 55 | 20 | 6 | 23-May | 02-May | 30-May |
| Rusty Blackbird | 75 | 20 | 12 | 24-Apr | 23-Apr | 29-May |
| Pine Siskin | 16 | 5 | 6 | 21-May | 21-May | 30-May |
| Common Redpoll | 142 | 10 | 54 | 18-Apr | 18-Apr | 08-May |
| Hoary Redpoll | 5 | 5 | 1 | - | 18-Apr | 01-May |