

Thunder Cape Bird Observatory

2024 Program Report



January 2025

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Canadian Migration
Monitoring Network



Réseau canadien
de surveillance
des migrations

Thunder Cape Bird Observatory

c/o Thunder Bay Field Naturalists

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Introduction

Thunder Cape Bird Observatory

Thunder Cape Bird Observatory (TCBO) conducts research and population monitoring of migratory birds along the north shore of Lake Superior. The observatory also provides education and training opportunities to the public and aspiring biologists. The observatory is nestled at the tip of Sibley Peninsula southwest of [Sleeping Giant Provincial Park](#), and is strategically located on the fringe of the boreal forest. This 35-km long forested peninsula is flanked by the highest cliffs in Ontario and is a natural migrant trap, particularly for waterfowl, raptors, and passerines in the fall. TCBO provides information on populations of boreal breeding birds as a contribution to the [Canadian Migration Monitoring Network](#) and Ontario's Provincial Wildlife Population Monitoring Program, as well as helping to document birds and natural history in the Thunder Bay District. TCBO is a joint project of [Birds Canada](#) and the [Thunder Bay Field Naturalists](#) in partnership with the [Ontario Ministry of Natural Resources](#).

Birds Canada

[Birds Canada](#) is the country's only national organization dedicated to bird conservation. Our mission is to drive action to increase the understanding, appreciation, and conservation of birds in Canada. Birds Canada is a national charity built on the contributions of thousands of supporters and Citizen Scientists. Using data from our volunteer monitoring programs and targeted research, our scientists identify significant population changes and direct conservation planning. We are a strong partner in [BirdLife International](#), the world's largest conservation alliance for nature and people, active in more than 120 countries and territories.

Thunder Bay Field Naturalists

The [Thunder Bay Field Naturalists](#) is a non-profit organization dedicated to the study of natural history, the wise use of natural resources, the preservation of natural areas, and the understanding and protection of nature. The TBFN has established a standing committee* to support operations of the TCBO since its establishment.

Committee members: Mirabai Alexander, Ted Armstrong, Neil Dawson, Nick Escott, Allan Harris (Chair), Brian Ratcliff, and Keith Wade.*

Acknowledgements

TCBO graciously recognises the support of the Ontario Ministry of Natural Resources and Forestry, Thunder Bay Field Naturalists, Environment and Climate Change Canada, Fisheries and Oceans Canada – Canada Coast Guard, Parks Canada – Lake Superior National Marine Conservation Area, and Birds Canada. TCBO acknowledges the staff of Sleeping Giant Provincial Park for logistical support, Tom Eaton- Chair and Harbour Master of Silver Islet Harbour Association, Jeff and Sandy Korkola of the Silver Islet Store, and the TBFN Bird Committee* of Thunder Bay Field Naturalists for their assistance. In 2024, the TBFN committee members put in 159.5 hours and made 18 trips to Silver Islet for a total of 3706 km. Lastly, most importantly, a very special thank you to each volunteers listed below.



Land Acknowledgement

Thunder Cape Bird Observatory offers this land acknowledgement in recognition of the Indigenous Peoples and communities on whose lands Thunder Cape Bird Observatory projects occur. Thunder Cape is in the traditional territories of the Ashinibek Nation and the traditional territory of Fort William First Nation, signatory to the Robinson-Superior Treaty of 1850.

Indigenous peoples have long inhabited these lands and are still home to diverse First Nations. Thunder Cape Bird Observatory, Birds Canada, and Thunder Bay Field Naturalists understand that Indigenous voices, knowledge, and ongoing work on the land are critical for wild birds to thrive in sustainable ecosystems. We support the needs, aspirations, and rights of Indigenous Peoples to care for the land.

We are privileged to have volunteers, researchers, and visitors from many Indigenous communities in the Western Hemisphere. We are committed to increasing that participation and collaboration. Birds Canada has formed an Indigenous Engagement Committee to help us improve our work. We hope that, through birds and shared love of nature, we can join in a spirit of respect and reconciliation across the hemisphere.

Migration Monitoring Program

Thunder Cape Bird Observatory (TCBO) has conducting research and population monitoring on bird migration at the tip of the Sibley Peninsula, adjacent to Sleeping Giant Provincial Park, since 1992. This 35-km long forested peninsula is flanked by the highest cliffs in Ontario which draw in waterfowl, raptors, and passerines. TCBO was founded to conduct population monitoring and research on migratory birds from the forests of northwestern Ontario, which migrate along the north shore of Lake Superior on their way south in the fall and north in the spring. The observatory also provides education and training opportunities to the public and aspiring biologists. Each spring and fall, staff and volunteers perform daily standardised banding and observations at TCBO. The migration count data assembled at TCBO are used to derive daily estimated totals for each species recorded throughout the year. Ultimately, estimated total data are used to generate population trends for nearly 200 species. Migration monitoring is a particularly valuable complementary monitoring method as it enables the monitoring of species that breed in northern Canada, or other inaccessible areas, which can be difficult to assess with more conventional monitoring methods such as the North American Breeding Bird survey. There are now nearly 30 migration monitoring stations (bird observatories) across Canada which form the Canadian Migration Monitoring Network (CMMM). TCBO is a joint project of Birds Canada and the Thunder Bay Field Naturalists in partnership with the Ontario Ministry of Natural Resources.

Table 1. TCBO-banded birds that returned to TCBO in Spring 2024 (includes reports from other years only received by TCBO in 2024). Birds are aged as Hatch Year (HY), Second Year (SY), After Hatch Year (AHY), or After Second Year. Birds are sexed as Male (M), Female (F), or Unknown (U).

Species	Original banding date	Age/Sex at recapture	Recapture date
Swainson’s Thrush	30/05/23	AHY/U	27/05/24
Magnolia Warbler	01/08/23	ASY/F	04/06/24
Magnolia Warbler	29/05/23	ASY/M	21/05/24
Magnolia Warbler	02/08/23	AHY/M	27/05/24
American Redstart	29/08/23	ASY/M	20/05/24
Song Sparrow	10/05/23	AHY/M	05/05/24
Song Sparrow	20/05/23	ASY/F	08/05/24

Song Sparrow	28/05/23	AHY/U	08/08/24
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Table 2. TCBO-banded birds that returned to TCBO in Autumn 2024 (includes reports from other years only received by TCBO in 2024). Birds are aged as Hatch Year (HY), Second Year (SY), After Hatch Year (AHY), or After Second Year. Birds are sexed as Male (M), Female (F), or Unknown (U).

Species	Original banding date	Age/Sex at recapture	Recapture date
Black-capped Chickadee	12/08/23	HY/U	23/10/24
Black-capped Chickadee	19/08/23	HY/U	17/08/24
Swainson's Thrush	30/05/24	SY/U	11/08/24
Swainson's Thrush	18/08/23	HY/U	02/08/24
Swainson's Thrush	30/05/23	AHY/U	07/08/24
Song Sparrow	02/06/24	AHY/M	11/08/24
Song Sparrow	20/05/23	SY/U	14/08/24
Black-and-white Warbler	10/08/21	AHY/F	03/08/24
American Redstart	06/08/23	HY/ M	03/08/24

Table 3. TCBO-banded birds reported from elsewhere in 2024 (table does not include birds reported previously). *Both the Merlin and Sharp-shinned Hawk are especially of note in making their way down to the mouth of the Mississippi River. TCBO does not have many noted birds directly that far south.

Species	Original banding date	Recapture location	Recapture date
Northern Saw-whet Owl	14/10/18	Stevens Point, Portage County, Wisconsin	19/10/22
Northern Saw-whet Owl	13/10/19	Stevens Point, Portage County, Wisconsin	21/10/22

Northern Saw-whet Owl	26/09/18	Lakewood, St. Louis County, Minnesota	18/10/22
Northern Saw-whet Owl	19/09/22	Stevens Point, Portage County, Wisconsin	07/10/22
Northern Saw-whet Owl	02/10/22	Beaver Den Citizen Science Centre, Fall Creek, Wisconsin	08/10/22
Northern Saw-whet Owl	02/10/22	Stevens Point, Portage County, Wisconsin	22/10/22
Merlin*	14/09/22	Chauvin, Terrebonne Parish, Louisiana	13/11/22
Sharp-shinned Hawk*	15/09/18	Band found at Vicksburg, Warren County, Mississippi	17/04/23
Northern Saw-whet Owl	23/10/22	Whitefish Point, Chippewa County, Michigan	15/05/23
Northern Saw-whet Owl	14/09/20	Bemidji, Beltrami County, Minnesota	19/04/23
Northern Saw-whet Owl	01/10/19	Whitefish Point, Chippewa County, Michigan	13/10/23
Northern Saw-whet Owl	10/10/22	Old Cut Station, Long Point Bird Observatory, Port Rowan, Ontario	29/10/23
Northern Saw-whet Owl	01/10/22	Hawk Ridge, Saint Louis County, Minnesota	03/10/23
Northern Saw-whet Owl	11/10/23	Hawk Ridge, Saint Louis County, Minnesota	29/10/23
Northern Saw-whet Owl	11/10/23	Hawk Ridge, Saint Louis County, Minnesota	14/10/23

Northern Saw-whet Owl	12/10/23	Whitefish Point, Chippewa County, Michigan	08/04/24
Northern Saw-whet Owl	24/09/23	Clam Lake, Wisconsin	09/10/24
Northern Saw-whet Owl	27/09/23	Saint Ignace, Mackinac County, Michigan	28/09/24

Spring Migration Monitoring

Spring at Thunder Cape Bird Observatory (TCBO) is always an exciting time, marked by new arrivals—both birds and people. The winter of 2023/2024 was exceptionally mild, with minimal snow and unseasonably warm temperatures across Northwestern Ontario and Lake Superior. Thunder Bay, a hub for skiing, saw multiple cross-country events canceled. The lack of ice cover, combined with low precipitation and high evaporation, led to historic low water levels in the lake. Unlike previous years, no significant snow remained in the woods upon our arrival.

Our 31st spring season ran from May 1 to June 7, spanning 38 days (excluding 2020 and 2021 due to COVID-19). The first day was rained out, allowing us to review data sheets and make casual observations. Operations officially began on May 2 with the setup of observation platforms, nets, and traps. That day, we banded two birds— a Hermit Thrush and a Myrtle Warbler—and recorded 51 species, including six duck species, two loons, and five warblers, notably an Eastern Phoebe and a Pine Warbler. The noon temperature was 5.5°C, with spring temperatures averaging a cool 8.5°C due to the lake’s influence.

Routine seasonal work included cleaning, setting up and removing nets and traps, managing waterlines, securing window coverings, and compiling data. Tree windfalls were also cut and split for use.

On the facilities side, we replaced all three catching boxes on our Heligoland and J-traps, with special thanks to returning volunteer Sheldon McGregor. The Motus Wildlife Tracking station, installed last year, remained in good condition.

Migration Summary

During the spring season, 176 species were recorded through counts and banding operations. A total of 1,957 birds of 78 species/forms were banded, with 197 individuals of 20 species recaptured. The 10-year average for birds banded at TCBO is 1,860. Our daily average catch was 52.89 new birds and 5.32 recaptures, with a catch rate of 122 birds per 100 net hours.

The three most frequently banded species were Blue Jay (464), Chipping Sparrow (268), and American Redstart (134). Several notable pulses of migratory activity resulted in daily captures exceeding 100 birds:

- **May 12:** 125 birds of 8 species, dominated by Chipping Sparrows (95) and Nashville Warblers (20).
- **May 17:** 106 birds of 24 species, including Blue Jays (22), Nashville Warblers (19), Black-and-white Warblers (11), and Tennessee Warblers (8), among 16 warbler species.
- **May 21:** 129 birds of 27 species, led by Blue Jays (49) and Tennessee Warblers (20). Highlights included a Lark Bunting, Gray Catbird, and Brown Thrasher.
- **May 26:** 146 birds of 27 species, featuring 26 Blue Jays and 31 American Redstarts among 18 warbler species.

Highlights:

Trumpeter Swan - Two were observed on May 15, 4 on May 17, 1 on May 27.

Wood Duck - Three were observed on May 22.

Northern Shoveler – Two were observed on May 10.

Redhead – Four were observed on May 6.

Ring-necked Duck – Ten flew by May 3.

Hooded Merganser – Four were observed on May 26.

Red-throated Loon – Three were observed on May 2, and few others throughout season.

American White Pelican – One was observed May 6, 3 on May 11, 5 on May 23, 1 on June 1.

American Goshawk – One was observed on May 5.

Ferruginous Hawk – One was observed on May 13.

Whimbrel – Thirty-five were observed on on May 23 and 80 on May 24.

Semipalmated Sandpiper – One was observed on May 27.

Dunlin – Singles were observed on May 20 and 25.

Wilson's Snipe – Two were observed on May 3, 1 on May 1.

Black-billed Cuckoo - Singles were observed on May 22, 26, 27, on June 6 when one was banded.

American Three-toed Woodpecker- One banded, the first for spring 2024.

Yellow-bellied Flycatcher- Twenty-one banded, the highest count in 14 years.

Blue Jay- We banded 464, our historical high total.

Swainson's Thrush- We banded 70, our highest station total ever.

Chimney Swift – Singles were observed on May 23 31.

Bank Swallow – One was observed June 5.

Western Kingbird – One was observed on May 24 28.

Warbling Vireo – One was observed on May 4 and 12.

Olive-sided Flycatcher - One was banded on May 24.

Eastern Wood Pewee – One was observed on May 30 through to June 7.

Golden-winged Warbler- One was observed on May 15 (banded) and May 16, this is not an annual capture at TCBO.

Pine Warbler – One was observed on May 2, 7, and 8.

Tennessee Warbler- We banded 75, the highest result in 13 years.

Cape May Warbler- We banded 59, the highest sum since 2009.

Black-throated Blue Warbler- We banded 22, highest tally since 2007.

Western Palm Warbler- Nine were banded, the lowest count for TCBO.

Scarlet Tanager – One was observed on May 18.

Western Tanager- One was banded on June 6, only our third one banded in spring. Another individual was observed on May 24.



Photo: Western Tanager by Cheryl Schramm

Grasshopper Sparrow- One was banded, not an annual occurrence at TCBO. Singles were observed on May 3, 4, 6, and one was banded May 31.

Vesper Sparrow- One was observed on May 7.

Rose-breasted Grosbeak- Three were banded, which is a low number for TCBO.

Orchard Oriole- One was banded, captured on only 3 years of operation.

Indigo Bunting – Four were observed on May 18, and one was banded.

Lark Bunting- One was banded May 21 and observed on numerous days afterwards. We have only banded 3 others over 32 years.



Photo: Lark Bunting by Rinchen Boardman

Table 4. Effort summary statistics for the spring 2024 season.

Effort Summary	
Person hours	1960
Individuals banded	1957
Species/forms banded	78
Individuals recaptured	196
Species/forms recaptured	19

Station days of monitoring	38
Trapping effort	
Total mist net hours	1596
Total hawk net hours	59
Total ground trap hours	562
Total jay trap hours	209

Our Volunteer Crew

We are deeply grateful to our dedicated volunteers, on whom we are entirely dependent. Over 38 days, they contributed a total of 2,010 hours of effort. Their hard work ensured safe operations, allowing us to run mist nets for 15,976.61 net hours, hawk nets for 59 hours, the Jay trap for 209.24 hours, and the ground trap for 562 hours.

Without volunteers, compiling these data would not be possible. We sincerely appreciate each individual who gave their time, endurance, and enthusiasm. This season’s team included volunteers from France, Iowa, Alberta, Ontario, and Nova Scotia: Myriam Ben-Ali, Michael Dayton, Destiny Flores, David Grinevitch, Linda Hutchison, Sheldon McGregor, and Cheryl Schramm.

Autumn Migration Monitoring

TCBO’s 33rd autumn season began on August 1 after several days of preparation and waiting for favorable weather—an essential factor for safe passage, even in July. Station preparations continued into the first week of August, with monitoring and trapping efforts gradually increasing as skills were refined.

The season was notably warmer and drier than previous autumns, with persistent strong south winds throughout. Our final full monitoring day was October 24. Operations ended earlier than expected due to unsafe wind and lake conditions and limited personnel.

Migration Summary

During the Autumn season 204 species were recorded during 85 days of monitoring. A total of 2,386 birds of 81 species/forms were banded, plus an additional 219 recaptures of 32 species/forms passed through the lab. The recent 10-year average for banded individuals is 3055.

The average daily capture is 28 with recaps being 2.6 per day. The catch rate is 65 birds per 100 net hours.

The most abundant birds banded were American Redstart (324), Cape May Warbler (148), and Golden-crowned Kinglet (134). The generally quiet season offered only one day when more than 100 migrants were captured. On September 19 we handled 24 American Redstart, 16 Nashville Warblers, 10 warbler species and a Black-billed Cuckoo.

Highlights:

Cackling Goose – Six were observed October 10.

Snow Goose – Six were observed October 13.

Trumpeter Swan – Seven were observed October 23.

Gadwall – Forty-two were observed October 18.

Northern Shoveler – Fourteen were observed October 11.

Redhead – Forty-six were observed October 3, 324 October 11, 368 October 18, and 15 October 20.

Greater Scaup- 2,592 were observed October 11.

Lesser Scaup- 324 were observed on October 11.

Red-breasted Merganser –A high of 243 were observed on October 11.

Red-throated Loon- Fifteen were observed on September 20, and 12 on September 18.

American White Pelican- Numerous were observed from August 16 to August 29.

Osprey - Singles were observed on August 12, September 17, 19, and 21.

Coopers Hawk – One was observed on August 24.

American Goshawk – Singles were observed on September 19, 27 and October 14.

Red-shouldered Hawk – One was observed on September 17.

Red-tailed Hawk – One dark morph was observed on October 9.

Rough-legged Hawk – Two were observed on October 13, and one on October 23.

Golden Eagle- One was observed on October 4, 2 on October 14, 2 on October 15.

Sandhill Crane- Eleven were observed on October 1.

Semipalmated Plover - Singles were observed on August 10, 11, 17, 20, and 27.

Sanderling- One was observed on September 5.

Buff-breasted Sandpiper- One was observed on September 1.

Stilt Sandpiper- One was observed on September 1.

Short-billed Dowitcher- One was observed on August 3.

Wilson's Snipe- Singles were observed on September 1, 18, and 19.

Red-necked Phalarope- One was observed on September 3.

Unknown Phalarope- One was observed on September 27.

Bonaparte's Gull - One was observed on August 10, and October 6.

Great Black-backed Gull – Two were observed on October 1.

Parasitic Jaeger - One was observed on August 27.

Rock Pigeon - One was observed on October 6.

Mourning Dove – One was observed on September 7/9, 17, 21, and October 15.

Yellow-billed Cuckoo - Singles were observed on September 16, and 19 through to 23.

Black-billed Cuckoo – One was observed on August 12/13, 2 on August 14, and singles on September 19 and 21.

Short-eared Owl – One was observed October 8.

Great-horned Owl – One was observed October 15.

Northern Saw-whet Owl – Fifty-four were banded, the lowest tally since 1992. The past 10-year average is 148.

Boreal Owl - The first banded since 2012.



Photo: Boreal Owl by Rinchen Boardman

Northern Shrike – One was observed on October 20.

Common Nighthawk – Only observed on a few days from August 11- 29. High count of 36 on August 16.

Chimney Swift - One was observed on October 23.

Barn Swallow - One was observed on September 1.

Tree Swallow- Thirty-five were observed on August 11. This is a high number for the station.

Belted Kingfisher - First banded in the past 10 years.

Black-backed Woodpecker - Only one was banded all season.

Least Flycatcher- We banded our lowest historical count.

Olive-sided Flycatcher – One was banded on August 15.

Eastern Wood-Pewee – Singles were observed on August 6, 24, and 31.

Great-crested Flycatcher – One was observed on August 27 & 28.

Western Kingbird – One was observed on August 25.

Blue Jay- Sixty-one were banded, the highest tally since 2010.

Black-capped Chickadee- Seven were banded, the lowest count on record. The recent 10-year average is 117.5.

Northern House Wren- Two were banded, one on October 8 and 16, and 2 were observed October 14-16, and one on October 24. Only one other has been banded, in 2007.

Winter Wren- A very low sum of 4 were banded.

Grey-cheeked Thrush- A low count of 4 were banded.

Northern Parula- Twenty-three were banded, our highest total.

Cape May Warbler- 148 were banded, which is the highest count since 1993. The recent 10-year average is 18.5. Observations were very abundant throughout August. Highs of 90, 105, and 95 on August 6, 12, and 14 respectively. These spruce budworm specialists are thriving.

Black-throated Blue Warbler- Thirty-five were banded, the highest for the station.

American Redstart- 324 were banded, which is the highest for the station. Very abundant throughout August. High counts of 98, 96, and 212 on August 22, 24, and 26 respectively.

Pine Warbler – One was observed October 16.

Warbler Species - 18 species were observed August 26.

Philadelphia Vireo- One was observed on August 15.

Nelson's Sparrow- One was banded, which is not an annual treat.

Harris' Sparrow- A remarkable 14 were banded. Indeed, not a typo. Our very highest result. Individuals were observed and captured from September 29 for 2 weeks. There were 12 observed on October 7.

LeConte's Sparrow – One was banded September 26 and October 21.



Photo: LeConte's Sparrow by Rinchen Boardman

Nelson's Sparrow – One was banded September 26.

Fox Sparrow – One was observed September 29.

White-breasted Nuthatch - Singles were observed on October 11, 12 and 18.

Brown Creeper – Seven were observed on September 11, and a high of 11 on October 21.

Gray Catbird – One was observed on September 10 and 29.

European Starling – Singles were observed on October 14 and 22.

Northern Cardinal- One was observed on August 21 and subsequently banded, our third on record.

Purple Finch- Two were banded. We have captured only one other in the autumn.

Dickcissel – One was observed on August 26.

Lazuli Bunting – One was observed on October 18.

Table 5. Effort summary statistics for the autumn 2024 season.

Effort Summary	
Person hours	3150
Individuals banded	2386
Species/forms banded	81
Individuals recaptured	219
Species/forms recaptured	32
Station days of monitoring	85
Trapping effort	
Total mist net hours	3659
Total hawk net hours	405
Total ground trap hours	1673
Total jay trap hours	390
Northern Saw-whet Owl hours	370

Common Nighthawk Monitoring

When weather allowed, standardized evening counts were taken from August 10 to September 10. They were observed on 15 different days in small numbers. A high tally of 36 was observed on August 16. On most nights our 3 nets were not open due to strong winds coming off the lake.

Northern Saw-whet Owl Monitoring

Our Northern Saw-whet Owl program started September 15 through late October. This year, we were able to trap for 30 nights. Despite a fine effort, we captured a very low count of 54 birds. In collaboration with Project OwlNet and the University of Delaware, TCBO deployed seven Motus tags to deploy on adult male and female Northern Saw-whet Owls in an effort to better understanding their migration strategies. [View the Motus Project here.](#)

Cooperators

As always, we are in debted to each volunteer who assisted in and endured the rigour of the monitoring this season. They contributed a total of 3,150 hours coming from Austria, California, Oregon, Iowa, New York, Delaware, Ontario, and Quebec. Special thanks to: Amy Brunning, Adam Crosby, Michael Dayton, Nathan Hood, William Konze, Robyn Lloyd, Katharina Maletz, Hanna Marder-MacPherson, Hailley Mitchell, Ryan Robison, Jason Talbott, and Kathryn Walpole.

Annual Visitors

Thunder Cape is not an easy place to visit, so it's a special treat when we get to welcome visitors to the station. Most hike the 12.5 km trail, some cycle a good part of the way and then walk in, and a few paddle in kayak. There were 134 visitors this year, the first arriving in early spring on May 5, the last departed October 21. Nearly a third of the guests came from the local area of Thunder Bay, others arrived from various provinces British Columbia, Alberta, Manitoba, Ontario, and Quebec. Americans visited from Iowa, Minnesota, Michigan, Vermont, and Wisconsin. Distant hikers arrived from Germany and France.

How You Can Help

TCBO relies heavily on the generosity of our supporters. There are many ways that you can make a lasting contribution to bird conservation through our research, training, and education programs at Thunder Cape Bird Observatory: one-time donations, monthly giving plans, or a legacy gift. You can also contribute to TCBO and bird conservation across Canada by participating in the Birds Canada Birdathon.

- \$ 2 Enables the banding of a bird.
- \$ 25 Keeps the bird feeders stocked for a week.
- \$ 50 Feeds our volunteer team for a day.
- \$ 100 Buys a mist net.
- \$ 250 Buys a Motus Tag, or covers the cost of a boat trip to Thunder Cape.
- \$ 500 Supplies the stations with toilet paper for a year.
- \$ 1 000 Supports a Young Ornithologist Internship at Thunder Cape.
- \$ 2 500 Supports the training of a pupil from Latin America.
- \$ 5 000 Provides a stipend for an assistant for one season.

Donations can be made [online](#) or sent by cheque made out to TCBO c/o Thunder Bay Field Naturalists Club, 131-1100 Memorial Ave, Thunder Bay, Ontario, P7B 4A3, or c/o Birds Canada P.O. Box 160, 115 Front St., Port Rowan, ON, N0E 1M0. Be sure to specify TCBO in any contribution on correspondence. For more information about planned giving, please call us toll-free at 1-888-448-2473 ext. 174, or email Kate Dalglish at kdalglish@birdscanada.org.

Appendix 1

Species and Form	Spring Total	Fall Total	Grand Total
American Goldfinch	2	0	2
American Redstart	134	324	458
American Robin	5	4	9
American Three-Toed Woodpecker	1	0	1
American Tree Sparrow	2	17	19
Baltimore Oriole	1	0	1
Bay-breasted Warbler	7	13	20
Belted Kingfisher	0	1	1
Black-and-White Warbler	45	75	120
Black-backed Woodpecker	0	1	1
Black-billed Cuckoo	1	3	4
Blackburnian Warbler	21	7	28
Black-capped Chickadee	1	7	8
Blackpoll Warbler	1	31	32
Black-throated Blue Warbler	22	35	57
Black-throated Green Warbler	20	52	72
Blue Jay	464	61	525
Blue-headed Vireo	1	8	9
Boreal Owl	0	1	1
Broad-winged Hawk	0	1	1
Brown Creeper	3	68	71
Brown Thrasher	2	0	2
Brown-headed Cowbird	3	0	3
Canada Warbler	32	51	83
Cape May Warbler	59	148	207
Cedar Waxwing	15	3	18
Chestnut-sided Warbler	22	8	30
Chipping Sparrow	268	38	306
Clay-colored Sparrow	3	5	8
Common Grackle	19	6	25
Common Yellowthroat	11	15	26
Connecticut Warbler	0	3	3
Downy Woodpecker	1	0	1
Downy Woodpecker	0	26	26
Eastern Bluebird	4	0	4
Eastern Phoebe	2	0	2
Eastern White-crowned Sparrow	10	4	14

Fox Sparrow	0	2	2
Gambel's White-crowned Sparrow	5	1	6
Golden-crowned Kinglet	6	134	140
Golden-winged Warbler	1	0	1
Grasshopper Sparrow	1	0	1
Gray Catbird	3	0	3
Gray-cheeked Thrush	0	4	4
Hairy Woodpecker	0	5	5
Harris's Sparrow	0	14	14
Hermit Thrush	7	5	12
Horned Lark	0	3	3
House Wren	0	2	2
Indigo Bunting	5	1	6
Lapland Longspur	0	1	1
Lark Bunting	1	0	1
Le Conte's Sparrow	0	2	2
Least Flycatcher	7	3	10
Lincoln's Sparrow	7	31	38
Magnolia Warbler	59	96	155
Mourning Dove	6	0	6
Mourning Warbler	10	19	29
Myrtle Warbler	73	74	147
Nashville Warbler	75	122	197
Nelson's Sparrow	0	1	1
Northern Cardinal	0	1	1
Northern Parula	8	23	31
Northern Saw-whet Owl	0	54	54
Northern Waterthrush	13	51	64
Olive-sided Flycatcher	1	1	2
Orange-crowned Warbler	6	20	26
Orchard Oriole	1	0	1
Ovenbird	22	16	38
Philadelphia Vireo	1	1	2
Pileated Woodpecker	1	7	8
Pine Siskin	63	0	63
Purple Finch	0	2	2
Red-breasted Nuthatch	14	21	35
Red-eyed Vireo	13	29	42
Red-winged Blackbird	11	0	11
Rose-breasted Grosbeak	3	2	5

Ruby-crowned Kinglet	40	19	59
Rusty Blackbird	0	6	6
Savannah Sparrow	10	48	58
Sharp-shinned Hawk	8	50	58
Slate-colored Junco	10	91	101
Song Sparrow	16	54	70
Swainson's Thrush	70	115	185
Swamp Sparrow	11	19	30
Tennessee Warbler	75	35	110
Traill's Flycatcher	13	25	38
Veery	8	3	11
Western Palm Warbler	9	66	75
Western Tanager	1	0	1
White-crowned Sparrow	1	2	3
White-throated Sparrow	32	32	64
Wilson's Warbler	15	11	26
Winter Wren	2	4	6
Yellow Warbler	8	10	18
Yellow-bellied Flycatcher	21	16	37
Yellow-bellied Sapsucker	0	9	9
Yellow-shafted Flicker	2	7	9
Total Species	78	81	98
Total Birds	1957	2386	4343