

# Brockway Mountain Hawk Watch



Photo by Debra Mues

## Summary for Spring 2014 Hawk Count

Conducted by

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Sponsored by

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## Introduction

In 2010, Copper Country Audubon and Laughing Whitefish Audubon launched the Keweenaw Raptor Survey (KRS), a three-year survey at Brockway Mountain (Copper Harbor, Michigan) to study spring raptor migration in the Keweenaw Peninsula (Haas & Gayk 2010). Results from the 2010 through 2012 surveys have been published in previous reports (Henschell 2010, Green 2011 & 2012). I think it is important to note too that there have been informal as well as more systematic counts (Peacock, 1992) undertaken on Brockway over the years. Subsequently, strong local interest lobbied to continue the count on Brockway Mountain and with the continued support of Copper Country Audubon along with Copper Harbor Birding, a spring hawk count was continued from West Bluff as the Brockway Mountain Hawk Watch in 2013 and 2014. This report is the summary results of the fifth season of systematic counting on Brockway Mountain.

## The Count

Systematic counts were conducted daily from 15 March to 15 June, 2014 (the “count season”) from West Bluff (the “count site”), a vantage point on Brockway Mountain located at N47.46399, W87.969541 (approximately 4 miles west of the town of Copper Harbor) and stationed 1328 feet above mean sea-level and approximately 728 above the average surface elevation of Lake Superior. The defined survey count period each day (the “survey period”) is as follows: 15 March thru 31 March, 0900 – 1500 EST (Eastern Standard Time); 1 April thru 31 May, 0800 – 1600 EST; 1 June thru 15 June, 0800 – 1400 EST.

This year was one of the latest springs in recent history for the Keweenaw on the heels of the coldest, hardest winter in decades. As with the spring of 2013, there were many weather-related closures of the count with a whopping twenty-two days in all eliminated from the study this year. Surveys were conducted on 71 of a possible 93 count days in the season, accounting for a total of 463.75 count hours. Sightings were posted rather sporadically to the web-blog ([brockwayhawkwatch.org](http://brockwayhawkwatch.org)) and the new facebook page with daily updates made to the HMANA site ([hawkcount.org](http://hawkcount.org)).

In addition to the principal counter, substitute counters this year included Joseph Youngman, Zach Gayk and Debra Mues with supplementary help from Charlene Brennan, Skye Haas, Mike Myers and Jon Peacock. These latter two gentlemen are a couple of the early counters at the site, undertaking surveys on Brockway beginning back in the 1970s. As in preceding springs, a count shelter was erected on-site for temporary relief from cold, windy & rainy weather conditions.

## Species Accounts

A standardized hourly count for all species of diurnal raptors (i.e., birds belonging to orders *Accipitriformes* and *Falconiformes* with appropriate changes in taxonomic order applied) was conducted in accordance with protocols defined by HMANA (Hawk Migration Association of North America) 2006 and Haas & Gayk 2010. Where any potential ambiguity existed between protocols, Haas & Gayk 2010 was used. As aids to field identification, Sibley 2000, Wheeler 2003, Liguori 2005 and Clark 2001 (for aging Bald Eagles) were used. Eastbound and westbound raptor flights were recorded on separate data forms (with weather data and observer details on a third sheet).

Over the course of the spring 2014 survey, 18,634 eastbound raptors of 16 species (Appendix B.1) and 5,713 westbound raptors of 14 species (Appendix B.2) were observed migrating past the count site. Unlike a year ago when most species were recorded in record numbers, the totals for this year were a bit of mixed bag of results. As might be expected, species that typically peak in April were seen in lower numbers as there were an inordinate number of bad weather days in that time frame. In fact, Sharp-shinned Hawks, Northern Harriers and Northern Goshawks had record low years. Bald Eagle was the only species to break the previous seasonal high mark as well as a single-day tally that ranks second highest all time. Several other species established new single-day high counts. Appendix A at the end of the report summarizes the results for all raptor species. Appendices G.1 and G.2 compare the five seasons of the official count by year and by month.

### **Turkey Vulture (*Cathartes aura*) “TV”**

In all, 1769 eastbound TVs were recorded this spring; a similar number to a year ago. I won't go into the enigmatic nature of counting vultures at this site (and at many hawk watches it seems) because I think I addressed that sufficiently last year. The first TV this spring was recorded March 31, close to the five-year average of March 29. The biggest flight was 207 April 21, falling at the early end of a broad window of peak migration time for the species and represents the largest ever one-day total at the site. May was the busiest month for vultures as it was in 2013 differing from the KRS when April recorded the highest totals for this species in those seasons; a function I'm sure of the later springs the last two years. While the eastbound tally made up about 9% of the overall number, the 776 westbound vultures made up about 14% of that flight. An interesting observation for this species is that almost all recorded vultures are apparent adults. I haven't researched this but perhaps the younger birds stay south for a time where the pickings are easy and abundant.

### **Osprey (*Pandion haliaetus*) “OS”**

Osprey totals for the five years of the official count have been all over the map with this year's total of 74 somewhat mid-range but well below last spring's record 175. The first Osprey seen was April 20, about a week behind the average date of April 14. The season high-mark was 9 seen May 6, perhaps a typical peak time but again with such variation in yearly totals, this determination is a bit difficult. The species year to year moves throughout the month of May in fairly consistent numbers with about 84% of the overall total this year seen in that month. Fifteen westbound Ospreys were seen, a not too different tally as last year, perhaps surprising given the overall drop in number.

### **Golden Eagle (*Aquila chrysaetos*) “GE”**

While seen in lower numbers than last year when a record high 81 were recorded, the 68 tallied this year is still well above any total for the KRS. As I have stated before with regards to this species, the early date is artificial with migrants presumably coming through before the beginning of the count. However, the first sighting this spring of March 16 is a couple of days ahead of the five-year average of March 18. The peak flight was the 8 seen April 5, a single-day record for the count. This peaks falls in the middle of a broad pulse of migration from mid-March to almost mid-April with just over 40% seen in April, the largest percentage for any one month. The last individual was seen May 28, the latest recorded date for the five years of the official count. There was an equally impressive 43 Golden Eagles tallied moving westbound. The breakdown with regards to age class for eastbound eagles was 21 juveniles, 18 sub adults, 24 adults and 5 of unknown age.

### **Northern Harrier (*Circus cyaneus*) “NH”**

Harriers were one of several species to have a record low year, due presumably to an abundance of foul weather during April when migration for the species would typically be at its peak. The total of 65

eclipses the previous low mark of 80 recorded in 2011. Early arrival dates for this species are also greatly affected by the openness of the spring with first dates recorded from as early as mid-March to as late as mid-April; this year's date of April 7 landing somewhat in the middle of that time frame. The peak passage was the 8 tallied April 20, perhaps slightly later than on a typical year. The bulk of the migration was more or less evenly split between April and May unlike previous seasons when the largest passage was clearly during April, further confirming the weather affect on the migration of this species. The age/sex breakdown for eastbound migrants was as follows: 19 juveniles, 19 females, 13 males, 10 brown individuals (birds clearly not adult male but too distant to separate juvenile from adult female) and 4 of undetermined age or sex. Surprising perhaps was that the last apparent migrant was an adult male seen June 10.

### **Sharp-shinned Hawk (*Accipiter striatus*) "SS"**

Sharp-shins were the species apparently most affected by the lack of appropriate migration conditions this spring, with the count of 864 exhibiting the largest deficit when compared to any previous season. This total is less than a third of the record 2,987 seen last year and only a little more than half the previous low count. The earliest was recorded March 30, similar to the arrival dates for 2011 and 2013 but about a week and a half later than the early springs of 2010 and 2012. Even given the lack of good migration days, the peak flight of 122 April 21 is on the early end of the peak migration window from late April into early May. The largest number by month was seen in May with almost three quarters of the entire flight recorded in that time frame. Appropriately, the westbound Sharp-shins total was less than a third last year's total with just 95 tallied. The breakdown of those individuals assigned to an age class was strongly skewed towards adult with 79% recorded as such. Looking at previous seasons, 2013 and 2012 also show a similar breakdown of ages in Sharp-shins while 2011 shows a larger proportion of individuals aged as juvenile although not nearly as disproportionately. Sharpies were not assigned ages in 2010.

### **Cooper's Hawk (*Accipiter cooperii*) "CH"**

Fourteen Cooper's Hawks were seen this spring, pretty much an average count at this site for this uncommon species. The early arrival date of April 20 is the latest initial date for the five years of the official count and about a week later than the average of April 12. Sightings were sprinkled throughout the spring from this April 20 time frame into early June with a high of two birds observed on several days. By month, 3 were recorded in April, 9 in May and 2 in June. The age breakdown was 9 juveniles and 5 adults.

### **Northern Goshawk (*Accipiter gentilis*) "NG"**

The 20 Goshawks recorded in 2014 is just half of the record 40 from a year ago. This total is the lowest for the five years of the count but only marginally below those years of the KRS. The recorded arrival dates for this species have varied only by a few days since 2010, ranging from March 15 to March 19. This year's date of March 16 is in keeping with that trend. Most were seen in the month of March with a peak flight of four noted March 30. Three westbound Goshawks were seen this spring. The age designation was 4 juveniles, 12 adults and 4 of unknown age.

### **Bald Eagle (*Haliaeetus leucocephalus*) "BE"**

Bald Eagles continue to show an upward trend from year to year with the 1658 recorded this season establishing a new high-water mark for the species. Truly the symbol of this hawk watch, they were seen migrating throughout the entire count period and were recorded on 67 of the 71 days when a count was conducted! The largest single tally was the 152 eagles seen April 7, the second highest one-day total in the history of the count. Interestingly, even given the inclement weather seen then, April recorded the largest overall percentage with 42% of all eagles observed in that month. This seems to hold with movements in other years with late or even average springs but unlike open springs like 2010 and 2012 when migration peaked during March. While the eastbound flight accounted for about 9% of the overall

numbers, the westbound tally of 547 eagles was almost 10% of that movement. The age class breakdown this year was as follows: 320 juveniles (19.3%), 603 sub adults (36.4%), 614 adults (37%) and 121 (7.3%) of unknown age.

### **Red-shouldered Hawk (*Buteo lineatus*) “RS”**

Red-shoulders were seen in about average numbers with the 13 recorded landing in the mid-range of the totals for the five years of the count. The first was seen April 7, about a week and half later than the average date of March 28. As might be expected with such low numbers, there was no strong trend as far as a peak migration although most were seen in the first half of the season. This is in keeping with other seasons and in fact in two of those seasons, there was not a single Red-shoulder recorded after the end of April. Furthermore, for the five years of the official count, there is yet to be a Red-shoulder encountered in the month of June. For the season, 8 juveniles were noted to go along with the 5 adults spotted.

### **Broad-winged Hawk (*Buteo platypterus*) “BW”**

A total of 12,322 eastbound Broad-wings were observed this season, which represents about 66% of the entire flight for 2014. The peak flight was 2098 on May 11, the second highest one-day tally to date and incidentally mirrors the date of the record count in 2012. The first Broad-wing was seen April 21, just a few days off the average arrival date of April 18. As with other seasons, the largest portion of the overall flight came through in May; the 10,652 seen in that month making up about 86% of the final count. There was a much smaller flight recorded in June this year as compared to 2013 perhaps due to early June being a bit cooler and wetter this spring. The age breakdown was as follows: 6321 (51%) adults, 1294 (11%) juveniles and 4707 (38%) of undetermined age. Among the juveniles tallied was a dark-morph individual, one of the more unexpected but better highlights of the season for myself. As expected the largest portion of the westbound flight involved Broad-wings, the 3,896 making up about 68% of the westward tally.

### **Swainson’s Hawk (*Buteo swainsoni*) “SW”**

Six eastbound Swainson’s Hawks were seen this year, a number in keeping with other years that have had numbers varying from four to seven individuals. Most impressive was that half of these six were seen on May 5, the first day that the species was encountered and not too surprisingly; this is a single-day site record. This arrival date is a bit tardier than the April 29 average and equals the latest date from 2011. All were seen in a window from May 5 to May 19. In terms of age and morphology, two were dark-morph birds (one each adult and unknown age), two were light-morph individuals (both adults) and two were of undetermined age and morphology.

### **Red-tailed Hawk (*Buteo jamaicensis*) “RT”**

Red-tails were another species whose flight was affected by weather events in April but unlike species like Sharp-shins and Harriers, their numbers recovered well in May and were even seen moving into June. In fact, the 1461 recorded stands as the second highest season count to date behind last year’s record number. The early arrival date was March 30, similar to first dates in 2011 and 2013 but a week or more after arrivals in the early and open years of 2010 and 2012. I’m sensing a trend here among species that are short-distance migrants that winter in more temperate areas of the continent (see more under NH, SS and BE). Even given the paucity of good flight conditions in April, record flights were seen on the 20<sup>th</sup> and 21<sup>st</sup> of that month with 216 and 232 Re-tails recorded respectively for those dates. These represent the largest single-day flights for the species at Brockway. About half of the total for the species was seen in May, the largest proportion for any one month. Age characters were recorded as such: 1175 (80%) adults (6 dark-morphs), 194 (13%) juveniles (3 dark-morphs) and 92 of unknown age. Red-tails made up just over 5% of the westbound total.

### **Rough-legged Hawk (*Buteo lagopus*) “RL”**

When looking at previous seasons, we see considerable variation in the totals for Rough-legs year to year. The 117 recorded this spring is only about a third of the record number seen last year but is a similar tally to the first two years of the KRS. The earliest recorded was April 9, some two weeks later than the average of March 22 and is the latest arrival date for the five years of the official count. The largest single flight was 35 April 21, at the early end of the average peak window during the last week of April into early May. Most were seen in April with the 80 recorded representing 68% of the entire flight. Broken down to color morphs, 97(83%) were light- morphs and 20 (17 %) were dark-morphs. Of those aged, 15 (13%) were juveniles, 100 (86%) were adults and 2 were of unknown age.

### **American Kestrel (*Falco sparverius*) “AK”**

Only about a third of the Kestrels were seen this year as in the record spring of 2013. The 87 observed is however a similar number to totals for the years of the KRS. First arrivals for Kestrels are also affected by the lateness/earliness of the spring with dates ranging from March 17 to April 16; this year’s April 11 arrival date at the late end of that window. The largest flight was the 14 Kestrels seen May 6, a typical time frame for the peak of migration with 62% of all Kestrels seen in the month of May. The breakdown as to sex was 30 females (34%), 44 males (51%) and 13 of unknown sex. Just 2 westbound Kestrels were noted.

### **Merlin (*Falco columbarius*) “ML”**

The forty Merlins tallied this year is more or less an average total when compared to previous seasons of the official count. The April 7 arrival date is the latest on record and well after the average date of March 26. This species does not show a particularly strong peak of migration with sightings scattered throughout the spring but a high count of 5 was seen on two dates; April 9 and April 19. Just over half of the overall total was also seen during April. Twenty-two brown (female or immature) individuals were noted along with 12 adult males and 6 of unknown designation. Nine westbound Merlins were recorded this spring although in some instances, these may have been local breeders.

### **Peregrine Falcon (*Falco peregrinus*) “PG”**

Peregrines came through again in solid numbers this spring with the 53 counted just a bit off last year’s record of 70. They were the only non-eagle species that had an arrival date significant earlier than the average, the March 30 date some two weeks in front of the April 15 average. However, most were seen in May, overwhelmingly in fact, with 45 of the 53 total seen in that time frame. The single biggest flight day was 10 May 19, the second largest single-day tally ever for the count. The age breakdown was 38 adults, 9 juveniles and 6 of unknown age. Nine westbound Peregrines were seen in 2014.

### **Unidentified Accipiter “UA”, Unidentified Buteo “UB”, Unidentified Falcon “UF” Unidentified Eagle “UE” & Unidentified Raptor “UR”**

Just a handful of unidentified raptors were noted this year, all UE; 3 eastbound and 2 westbound.

## **Non-raptors**

In addition to the standardized raptor counts, daily simultaneous counts were conducted for all other bird species that were detected visually or aurally during the count season in accordance with KRS protocol (Haas & Gayk 2010). A tabulation of the first and last observation for non-raptor species recorded at West Bluff during the survey period is presented in Appendix C. The maximum daily count with date of peak occurrence is supplied in this table. Season totals are provided for all species, but it is important to use discretion in interpreting them, recognizing that some totals are closer to true values (Canada Goose,

Sandhill Crane), and detected individuals are not necessarily unique as there is no guarantee that they were not observed subsequently. (Appendix F is presented as the daily estimated total (DET) for all 120 species encountered in 2014.)

Overall, 104 additional bird species were recorded on Brockway Mountain this spring with 16,079 migrants and resident individuals noted. Significant numbers of migrants included 12,757 Canada Geese, 564 Common Loons, 521 Sandhill Cranes, and 31 American White Pelicans. Notable species seen were Western Kingbird, Townsend's Solitaire, Brewer's Blackbird and Western Meadowlark. Additional rare and vagrant bird species seen in Copper Harbor included Black-crowned Night-Heron, Green Heron, Lark Sparrow, Harris's Sparrow, Summer Tanager, Blue Grosbeak, Orchard Oriole and Eurasian Tree Sparrow.

## Weather

Weather measurements, including wind speed, wind direction, temperature, barometric pressure, percentage of sky covered by cloud-form, visibility, and precipitation type (e.g., haze, rain, snow) were taken at the top of each count hour throughout the count season. These measurements provide atmospheric context for the migration observed each count day. A summary of these variables is presented as Appendix D, reworked a bit from previous seasons to give a more complete picture of the weather on any given day.

Much of the first half of the season of 2014 continued the colder than normal trend, an extension of a winter that was the coldest recorded in quite some time. March was probably average in terms of precipitation but temperatures barely made it to the freezing point, the average daytime high for the month being -4C (25F). April overall was remarkably similar to 2013 and presented the largest number of missed days, although a portion of those days were lost due to a malfunctioning snowmobile. Yes, once again, I was using this mode of transportation into the early part of May to get to the top of the Mountain! Getting back to April, there were a number of snow events during the month that stymied the count, similar to last spring. The first half of April was also very cold, averaging 3C (38F) with a number of those days not even making it out of the 20s. The latter half of the month did see an improvement with temps nearing normal ranges. May saw the largest swing in temperatures, the first two weeks averaging around 10C (50F), the second half averaging 21C (70F). As well, there were a number of count days missed in the early part of the month due to cool, damp stretches of weather. June was certainly cooler and damper than a year ago, with the average temperature around 18C (64F).

As in 2013, the overall effect of the late spring was varied. As discussed in the species accounts, short-distance migrants that winter in more temperate regions of the continent tend to start their migration it seems in March and early April during open, mild springs and correspondingly, that movement shifts to a later time frame in colder, snowier years. Species like Bald Eagle, Northern Harrier, Sharp-shinned Hawk and Red-tailed Hawk illustrate this very well when you look at all five years of the count. What is perhaps surprising is that this year, eagles and Red-tails continued to move in numbers throughout the spring while the flight for Sharp-shins and Harriers did not recover, resulting in record low numbers overall for those two species. Totals for Rough-legged Hawk and American Kestrel, species that also typically peak in April and early May, were also notably affected by the later spring. However, these two species show a lot of variation year to year in terms of overall numbers tallied so their low totals this year are less of a surprise.

## Visitors

Access to the Mountain, as in 2013, was the most significant factor affecting the number of visitors to Brockway this year. As the number of snowmobilers lessened during March and early April, I saw less and less activity and there were even days in the latter part of April when I didn't see anyone on West Bluff. With the road finally opening up in early May, there was a reasonably steady but not heavy movement of folks over the Mountain, a number who seemed to be overly interested in the fact that the old gift shop had been removed from the top of Brockway. Somehow, I was the perceived resident expert on why the building was no longer standing as this was my most-frequently-asked-question. Most of these people seemed to have but a trifling interest in what I was doing. There were however some birders that made it to Brockway during the spring, most notably Mike Myers and Jon Peacock who did raptor surveys on Brockway as early as the late 70s. Most notably absent this year was Vic Berardi who did not make it up for a visit this season. Daily visitor totals are presented in Appendix E.

## Acknowledgements

As of 2012, ownership of West Bluff and environs has been transferred to Eagle Harbor Township who, along with Michigan DNR (MI DNR Trust Fund Grant), the Michigan Nature Conservancy, the Houghton Keweenaw Conservation District, the Keweenaw Land Trust and Copper Country Audubon have pledged the continued protection of Brockway Mountain as part of the Keweenaw Coastal Wildlife Corridor. We thank them for the continued use of the site for the purposes of the hawk watch as well as the preservation of this spectacular scenic byway for the enjoyment by the general public.

Support for the Brockway Mountain Hawk Watch was again provided by the memberships of Copper Country Audubon as well as Copper Harbor Birding. Special thanks to Ilse Gebhard and Russ Schipper for a sizeable donation to support the count. A generous grant was provided by the Steven C. Leuthold Family Foundation to support the birding work along the Keweenaw Coastal Wildlife Corridor. Organizing committee members this year included Bill Deephouse, Karen Karl, Debra Mues, Dana Richter, Hannah Rooks and Joe Youngman. Bill Deephouse and Dana Richter handled funds and administered the count. Thank-you goes to Ken & Vicky Stigers of the Pines Resort for once again generously supplying lodging for the counter. Use of snowmobiles was provided this year by the Copper Harbor Trails Club and Bill & Bonnie Degowski. Thank you.

Most appreciative thanks go to all those individuals directly involved in the day-to-day mechanics of the count without which there would be no hawk watch. These include the substitute counters: Joseph Youngman, Zach Gayk, and Debra Mues with help from Charlene Brennan, Skye Haas, Mike Myers and Jon Peacock. A most gracious thank-you to all of you. Also, many thanks go to Karen Karl for her ever-cheerful help and support throughout the spring and Debra Mues for organizing substitute counters as well as her infectious enthusiasm. Many thanks as well go to Bill & Bonnie Degowski for their continued generosity and technical support.

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**APPENDIX A: Migrant Raptors – Brockway Mountain, Spring 2014.**

<b>SPECIES</b>	<b>FIRST</b>	<b>MAX</b>	<b>MAX DATE</b>	<b>LAST</b>	<b>E. TOTAL</b>	<b>W. TOTAL</b>
Turkey Vulture	31 Mar	207	21 Apr	14 Jun	1769	776
Golden Eagle	16 Mar	8	5 Apr	28 May	68	43
Osprey	20 Apr	9	6 May	4 Jun	74	15
Northern Harrier	7 Apr	8	20 Apr	10 Jun	65	8
Sharp-shinned Hawk	30 Mar	122	21 Apr	10 Jun	864	95
Cooper's Hawk	20 Apr	2	various dates	10 Jun	14	0
Northern Goshawk	16 Mar	4	30 Mar	30 May	20	3
Bald Eagle	15 Mar	152	7 Apr	14 Jun	1658	547
Red-shouldered Hawk	5 Apr	2	17 May	31 May	13	1
Broad-winged Hawk	21 Apr	2098	11 May	11 Jun	12,322	3896
Swainson's Hawk	5 May	3	5 May	19 May	6	0
Red-tailed Hawk	30 Mar	232	21 Apr	14 Jun	1461	292
Rough-legged Hawk	9 Apr	35	21 Apr	29 May	117	15
American Kestrel	11 Apr	14	6 May	9 Jun	87	2
Merlin	7 Apr	5	two dates	5 Jun	40	9
Peregrine Falcon	30 Mar	10	19 May	10 Jun	53	9
Unidentified Accipiter	--	--	--	--		
Unidentified Buteo	--	--	--	--		
Unidentified Falcon	--	--	--	--		
Unidentified Eagle	30 Mar	2	30 Mar	6 Apr	3	2
Unidentified Raptor	--	--	--	--		
<b>TOTAL</b>					<b>18634</b>	<b>5713</b>