

**Thirty-Seventh Annual Fall Raptor Migration Count
at Holiday Beach Conservation Area,
Amherstburg, Essex County, Ontario, Canada**

Including Observations of Selected Non-Raptor Species



FALL 2010

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Fall 2010 Hawk Counter, Holiday Beach Migration Observatory

**Conducted by the Holiday Beach Migration Observatory
in cooperation with the Essex Region Conservation Authority
at Holiday Beach Conservation Area**

ABSTRACT

The 37th Annual Hawk Count at Holiday Beach Conservation Area in Amherstburg, Ontario, Canada was conducted from 1 September through 30 November 2010. A season total of 72,122 individual raptors of 16 species were tallied during the 2010 fall migration period. This season's total is approximately 11% greater than the 10-year (2000-2009) average of 64,924 and about 9% lower than the 20-year (1990-2009) average of 79,100. Merlin had a record setting year in 2010 with 130 individuals tallied. Bald Eagle tied its all time high of 175 first set in 2007, while Turkey Vulture, Osprey, and Golden Eagle were well above their 10 and 20-year averages. Northern Harrier, Sharp-shinned, Cooper's, Red-shouldered, Broad-winged, and Rough-legged Hawks were all recorded in numbers near their respective 10-year averages with all but Cooper's Hawk slightly below their 20-year averages. Species recorded in below average numbers included Red-tailed Hawk, American Kestrel, and Peregrine Falcon, while Northern Goshawk tied its second all time low count in 20 years. A juvenile Mississippi Kite observed on 8 September was the first recorded in the site's history.

HISTORY OF SITE

“Southwestern Ontario is largely an area of flat, featureless farmland with the region's most prominent geographic feature being its proximity to the lower Great Lakes. Three of the Lakes (Erie, Huron, and Ontario) border the lower third of the province and as a result largely influence bird migration through the region. In conjunction with the lakes is the narrowing of the landmass on a northeastern to southwestern trajectory. This ‘funnel-effect’ helps concentrate southbound migrants such as raptors to specific flight corridors bordering the region's shorelines.

Holiday Beach Conservation Area (HBCA) was formerly an Ontario Provincial Park but is now administered by the Essex Region Conservation Authority. As a hawkwatch site, it is strategically located on the north shoreline of Lake Erie at the extreme southwestern tip of southern Ontario.

Holiday Beach Migration Observatory (HBMO) was founded in 1986 with the goal of enhancing the annual fall raptor count with public education programs, site and habitat improvement and conservation, and promoting scientific study of bird migration in the region. In 1988, HBMO persuaded the Detroit Edison Company in Michigan to donate a 40-foot ‘Hawk Tower’ from across the border to where it stands in the park today.

In 1999 and 2000, HBMO provided data that allowed the HBCA and the nearby Big Creek Marsh to be designated an Important Bird Area by Bird Studies Canada, giving the site international recognition” (Chartier and Stimac 2002).

RAPTOR MIGRATION SUMMARY

Two sources of supportive data are presented in this article. Table 1 is a summary of 21 years (1990-2010) of seasonal raptor totals recorded at HBCA. Table 2 is a summary comparison of migrant raptor changes during a 20-year (1990-2009) and 10-year period (2000-2009).

In 2010, a season total of 72,122 individual diurnal raptors were recorded between 1 September and 30 November with hourly and daily averages of 102 and 792 raptors attained, respectively. A total of sixteen raptor species were recorded in 2010, one above the 20-year season average. The individual raptor total was down about 13% from last year's total of 83,151

and nearly 9% below the 20-year average, while remaining above the 10-year average by about 11% (Table 2).

A total of 24,467 raptors of 13 species were recorded in September with the majority of the September flight dominated by Osprey, Northern Harrier, Broad-winged and Sharp-shinned Hawks, American Kestrel, Merlin, and Bald Eagle. October is recognized as the month with the maximum diversity of raptors, and often the greatest numbers as was the case in 2010 with 41,440 raptors of 15 species recorded. Species that made up the majority of October flights included Turkey Vulture, Sharp-shinned, Cooper's, Red-shouldered, and Red-tailed Hawks, and early in the month, Peregrine Falcon. November saw a final push of Turkey Vulture, while it also brought peak flights of Red-shouldered, Red-tailed, and Rough-legged Hawks and Golden Eagle. November's totals consisted of 6,215 raptors of 12 species with the last significant flight of the season (192 raptors) occurring on 12 November.

The official site counter with the assistance of several volunteer counters logged a count of 703 observation hours in 91 days of counting during the 2010 fall migration season. The total hours of observation were close to 22% greater than the 10-year average and nearly 12% greater than the 20-year average. All days during the season received at least one hour of coverage with the lowest daily coverage being three hours of observation on 3 September due to steady rain. In summary, the raptor count from the Hawk Tower was conducted daily during the prime raptor migration hours of 0800 to 1500 in all but the worst weather conditions.

WEATHER SUMMARY

Overall, it was a mild fall in terms of weather with an average daily high of 17.5 degrees Celsius. The maximum daily high of 32.0 degrees Celsius was recorded on 14 September, while the minimum daily high of -2.4 degrees Celsius occurred on 26 November. September temperatures were slightly below normal with a local average daily high temperature of 24.0 degrees Celsius, while regional precipitation was about average at 98.5 mm (Detroit/Flint National Weather Service, 2010). Winds with a favorable northerly component for raptor migration were present at least partially on 14 days in September. October was warmer and much drier than average with an average daily high temperature of 18.1 degrees Celsius and a regional precipitation total of 41.9 mm (Detroit/Flint National Weather Service, 2010). A couple of cold fronts in

October brought a northerly wind component to the site on 19 days, and led to some of the season's best raptor flights. November temperatures were about average with a local average daily high temperature of 10.4 degrees Celsius, while regional precipitation was slightly above average at 58.2 mm (Detroit/Flint National Weather Service, 2010). November brought no accumulations of snow, while a northerly wind component was present on only a meager 13 days of the month.

DISCUSSION

The fall 2010 raptor total (72,122) was up approximately 11% from the 10-year average and about 9% below the 20-year average (Table 2). Species with above average totals in 2010 included Turkey Vulture, Osprey, Bald Eagle, Golden Eagle, and Merlin. Of these, Merlin was tallied in record numbers (130 individuals), while Bald Eagle tied its all-time highest total and Turkey Vulture achieved its third highest ever total in 36 years of migration monitoring at 175 and 38,178 individuals, respectively. In relation to their 20-year averages, Northern Harrier, Sharp-shinned Hawk, Northern Goshawk, Rough-legged Hawk, and American Kestrel were recorded in below average numbers, while Cooper's Hawk, Red-shouldered Hawk, Broad-winged Hawk, Red-tailed Hawk, and Peregrine Falcon were just slightly below their 20-year averages. Of these, Northern Goshawk (7 individuals) tied its fourth lowest total, while American Kestrel (1,458 individuals) was recorded in its third lowest total in the site's history. Although rare, but regular, Swainson's Hawk was not recorded in 2010, representing the twelfth time in the last twenty years that the species has not made a fall appearance at Holiday Beach. A Mississippi Kite observed on 8 September represented the first record of this species at Holiday Beach and 19th species of raptor to be recorded at the site.

RAPTOR SPECIES ACCOUNTS

Turkey Vulture (*Cathartes aura*)

Although not considered a true raptor by scientific standards, the Turkey Vulture's size, shape, and migration strategies make it an "honorary raptor" and a standard and welcomed sight at Great Lakes hawkwatches. Given the species northerly range expansion into southern Canada over the last half century, it would be reasonable to expect that numbers of Turkey Vultures passing Holiday Beach will remain high into the near future.

At 38,178 individuals, the 2010 season total for Turkey Vulture was the third highest total recorded at Holiday Beach, falling just short of the previous all-time season highs of 43,841 and 41,543 set in 2009 and 2005, respectively (Table 1). As expected, Turkey Vulture migration picked-up in mid-September, peaked in October, and continued until about mid-November. The peak 10-day period occurred from 1-10 October during which 16,067 or 42% of the season's vulture total was tallied. The season's single-day high count occurred within this period on 4 October when 10,264 Turkey Vultures were recorded passing Holiday Beach. This one-day total represents the second highest single-day total at Holiday Beach, second only to a spectacular movement of 20,032 vultures that occurred on 9 October 2005. The last observation of a migrant Turkey Vulture occurred on 21 November, although additional observations of single Turkey Vultures were made on 23, 24,

and 27 November, one or more of which likely represented a local individual lingering near the site late into the season. Turkey Vultures comprised by far the largest percentage of any species in 2010, making up roughly 53% of the season's raptor total.

Osprey (*Pandion haliaetus*)

Osprey may be the most under censused migratory raptor at Holiday Beach largely because many start their southward migration through the Great Lakes region in early August, well before the official start of the season on 1 September (Bosler 2009). Despite this, the month of September encompasses a large portion of the latter half of the species' migration period with small numbers continuing to move through the region into October.

The 2010 season total of 139 Osprey represents the sixth highest total at Holiday Beach behind the all-time season high of 186 recorded in 2007 (Table 1). The peak 10-day period occurred from 5-14 September during which 55 or 41% of the season total passed Holiday Beach. This period also included the season's highest single day count of 11 occurring on 6 September. As expected, numbers of migrant Osprey began to decrease by late October with only seven migrants recorded after 15 October. Five observations of Ospreys occurred in November with the season's last apparent migrant recorded on 13 November. Despite this, additional observations were also made on 3, 15, 16, and 17 November, all of which appeared to represent late individual(s) lingering at the site and therefore observations were not officially recorded as migrants on those dates. A low-density migrant, Ospreys comprised only 0.2% of the raptor total in 2010.

Bald Eagle (*Haliaeetus leucocephalus*)

After nearly 25 years since the complete banning of DDT throughout North America, Bald Eagles have continued to thrive in the Great Lakes region. This is a testament to the steady increase numbers of this iconic raptor passing Holiday Beach each fall. Having a protracted migration period from August to December, migrant Bald Eagles can be expected to pass Holiday Beach nearly any day during the fall season.

A tying record high season total of 175 Bald Eagles was recorded in 2010, matching the initial all-time high set in 2007 (Table 1). The season total is over two times greater than the 20-year average of 76, and roughly a 75% increase from the 10-year average of 100 (Table 2). Typically, the season peak occurs in mid-September, as was the case in 2010 when 57 or 33% of the season's total was recorded during the 10-day period from 12-21 September. The season's maximum single day count occurred near the end of this period on 20 September when 17 eagles were tallied. This represents the fifth all-time single day high count, and only nine eagles behind the single-day record high of 26 recorded on 9 September 2003. Apart from migrant Bald Eagles, at least one local family group consisting of a pair of adults and two juveniles was present at the adjacent Big Creek Marsh throughout the season. This led to the subjective nature of separating the true migrant eagles from the resident adults and local immatures, and thus many observations were made based only on a combination of indirect evidence and best judgment. Also a low-density migrant through the region, Bald Eagles comprised only 0.2% of the season's raptor total in 2010.

Northern Harrier (*Circus cyaneus*)

With varied migration habits and a fall migration period extending from early September to December, Northern Harriers can be one of the more difficult raptors to accurately census at hawkwatches. The large amount of variation in their annual movements is often correlated with population cycles of their prey species' such as the meadow vole. Despite this, Harriers are regular sights at Great Lakes hawkwatches in almost any weather, being one of the few raptor species that will migrate in rainy conditions.

The season total of 740 Northern Harriers is just slightly below the 10-year average of 751, but down about 19% from the 20-year average of 911 (Table 2). These are all much lower than the all-time season high of 1,636 recorded in 1989. The 2010 season peak for Harriers occurred during the 10-day period from 12-21 September when 182 or 24% of the season total was recorded. The maximum single day count occurred towards the end of this period on 19 September when 37 harriers were tallied. Numbers continued to remain high into the first half of October with a smaller peak in numbers occurring from 1-10 October when 142 or 19% of the season total was tallied. Having a prolonged migration period and a high tolerance for less than ideal weather, Northern Harriers were recorded at least once on 88% of the count days, making it the most "widely visible" raptor. Despite their prominence, Northern Harriers comprised only about 1% of the season's raptor total in 2010.

Cooper's Hawk (*Accipiter cooperi*)

Thriving in the continual sprawl of urban and suburban landscapes, Cooper's Hawks have become a common and familiar site around many cities and towns. Their ability to thrive in human-dominated environments has led to a gradual increase in numbers over the last 40 years that has been observed at many hawkwatches in the east.

The season total of 603 Cooper's Hawks is just 6% above the 10-year average of 568, and just slightly below the 20-year average of 604 (Table 2). Despite being near both the 10 and 20-year averages, the total is nearly 36% below the 2009 season total of 942, and slightly more than half the record season high of 1,082 set in 1991. The peak 10-day period in 2010 occurred during the first half of October when 203 or 34% of the season total was recorded from 4-13 October. The one-day high count of 86 occurred towards the end of this peak period on 12 October. Numbers remained relatively low, but were consistent through the second half of October before slowly dropping off in mid-November. Cooper's Hawks comprised only 0.8% of the season's raptor total in 2010.

Sharp-shinned Hawk (*Accipiter striatus*)

After a sharp drop in population size, numbers of Sharp-shinned Hawks or "Sharpies" appear to be stabilizing at hawkwatch sites across eastern North America. Being the smallest of the accipiter hawks, Sharp-shins prey heavily on small songbirds that they pursue in brief acrobatic chases through thick vegetation.

The 2010 season total of 9,510 Sharp-shins is just slightly above the 10-year average of 9,190, but well below the 20-year average of 11,391 by nearly 16% (Table 2). Unlike the larger Cooper's Hawk, Sharp-shinned Hawks peak earlier in the

season, as was the case in 2010 when 3,687 or 39% were recorded from 12-21 September. The best single-day flight occurred near the start of this period when 865 sharpies were recorded on 13 September. Numbers of Sharp-shins continued to remain high into October with consistent flights occurring from 1-10 October that totaled 2,538 individuals or about 27% of the season total. By the second half of October into the first week of November, numbers of Sharp-shins began to slowly decrease as the predominant age composition switched over from juveniles to adults. It is interesting to note that with the decline in Sharp-shinned Hawks and the steady increase in Cooper's Hawks, the ratio of these two closely related species at Holiday Beach has fallen to roughly 10:1 from a near 20:1 ratio over the last twenty years. Sharpies ranked as the third most numerous raptor at Holiday Beach in 2010, comprising 13% of the season's raptor total.

Northern Goshawk (*Accipiter gentilis*)

One of the scarcest of the regularly occurring raptors at Holiday Beach, sightings of Northern Goshawks are always highly sought after by seasoned hawkwatchers. Being known for their occasional irruptions resulting from prey shortages on their northerly breeding grounds, large numbers of goshawks occasionally travel past Holiday Beach to areas south of the US-Canadian border.

In 2010, a meager seven Northern Goshawks were tallied, representing the fourth-lowest total in 36 years of migration monitoring at Holiday Beach and tying the second lowest total in the last 20-years. The season total was down nearly 77% and 80% from the 10 and 20-year averages (Table 2), respectively and pales in comparison to the season high record count of 77 set in 1991. The season's first two goshawks, both juveniles, were recorded on 4 October, which were then followed by observations of single juveniles on 13 and 15 October and 1 November, and single adults on 30 October and 5 November. During average years, peak flights of goshawks can occur anywhere from mid-October to late November and tend to be dominated by juveniles. Northern Goshawk, a regularly occurring raptor at Holiday Beach, ranked as the least numerous in 2010, comprising less than 0.001% of the season's raptor total.

Red-shouldered Hawk (*Buteo lineatus*)

Always a welcomed sight at Great Lakes hawkwatches is the Red-shouldered Hawk, adults of which are one of the most colorful of the eastern *Buteos*. Typically a southern breeder in the east, the breeding range of Red-shouldered Hawks makes it just far enough north to become an uncommon sight at Holiday Beach each fall.

A season total of 511 Red-shouldered Hawks was recorded at Holiday Beach in 2010, slightly below the 10-year average of 600 by 15% and over 35% below the 20-year average of 786 (Table 2). This year's total is in large contrast to 2009 when an exceptional 1,096 Red-shouldered were tallied -- the highest season total since 1997 and more than double the 2010 total (Bosler 2009). The season's first Red-shouldered Hawk was observed on 30 September and after a month of small flights, the peak 10-day period occurred from 31 October to 9 November when 290 or 57% of the season total was recorded. The one-day high count in 2010 occurred near the start of this period on 2

November when 177 Red-shouldered Hawks were tallied. The 2010 peak is notably late in contrast to 2009 when the peak Red-shouldered flights occurred during mid-October. Small numbers of Red-shouldered were observed intermittently into late November with the last observation being of a single adult on 29 November. Red-shouldered Hawks comprised about 0.7% of the season's raptor total in 2010.

Broad-winged Hawk (*Buteo platypterus*)

The Broad-winged Hawk is a well-known favorite amongst hawkwatchers due to their spectacular migrations in large swirling flocks or "kettles" that can cover several thousand miles in one season. Because of their habit of migrating in these large kettles made up of several hundred individuals, Broad-wings often vie with Turkey Vultures for the top spot in numbers year-to-year at Holiday Beach.

Being highly dependent on thermals for migration, along with their habit of migrating in large kettles, the passage of Broad-wings at Holiday Beach is highly dependent on local weather conditions at the peak time of their passage in mid to late September. Strong north winds during this time period will often bring large numbers of Broad-wings past Holiday Beach, while any southerly component to the wind often leads large numbers to pass through the immediate region several kilometers inland from the site. Thus in any given year, many passing through the region go unaccounted for, and in retrospect, this aspect of their migration makes it difficult to accurately judge populations trends within the species. As one could conclude from the 10 and 20-year averages, yearly totals below 20,000 individuals have been the norm over the last ten years, while higher season totals above 25,000 seem to have become sights of the past (Table 2). Whether these changes are due to an actual decrease in population, regularly occurring changes in regional weather conditions, or a combination of both is a question that is difficult to answer.

The 2010 season total of 16,317 Broad-winged Hawks is just slightly above the 10-year average of 16,263, but well below the 20-year average of 33,835 by nearly 52% (Table 2). The peak 10-day period for Broad-winged Hawks occurred "on schedule" from 12-21 September when 14,343 or 88% of the season total was recorded passing Holiday Beach. The one-day high count occurred about mid-way through the 10-day period when 7,874 Broad-wings, roughly half of the peak period count were tallied on 19 September. Counts of a few hundred individuals occurred into the first few days of October before numbers dropped sharply by 7 October. The season's last observation of a Broad-winged Hawk occurred on 18 October when a lone juvenile passed through in loose company of several Red-tailed and Red-shouldered Hawks. Broad-winged Hawks comprised nearly 23% of the season's raptor total and were the second most numerous raptor at Holiday Beach in 2010.

Red-tailed Hawk (*Buteo jamaicensis*)

The Red-tailed Hawk is by far one of the most widespread and well-known raptors throughout North America. Being the most common raptor in the eastern half of the continent and with a protracted migration period that can extend from August to December, Red-tails are a regular sight at Holiday Beach each fall.

A season total of 4,121 Red-tailed Hawks was recorded at Holiday Beach in 2010, slightly below the 10-year average of 4,599 by just over 10% and about 30% below the 20-year average of 5,923 (Table 2). This ranks as the fourth lowest total in the last ten years, and pales in comparison to the all time season high of 11,238 recorded in 1995. Numbers of Red-tails gradually increased through September, and after several small, scattered flights throughout October, the peak 10-day period occurred from 31 October to 9 November when 2,649 or 64% of the season total was recorded. The season's one-day high count occurred towards the start of this period on 2 November when 1,418 Red-tails were tallied, representing the 10th all-time highest one-day count at Holiday Beach. After a great start to November, numbers of Red-tails began to decrease abruptly mid-month with the onset of persistent southerly winds, and as a result only a few small, scattered flights were recorded after 15 November. Red-tailed Hawks were one of the most common sights at Holiday Beach in 2010, being recorded at least once on 84% of count days, and comprised nearly 6% of the season's raptor total.

Rare, but regular at Holiday Beach each fall are the dark and rufous morphs of the "Western" subspecies of the Red-tailed Hawk (*B.j. calurus*). Three dark morphs were observed in 2010, all adults that were observed on 15 October and 11 and 12 November.

Rough-legged Hawk (*Buteo lagopus*)

What could be argued as one of the most intricately plumaged and highly sought after of all the *Buteos*, Rough-legged Hawks always denote a good day of hawk watching. This high arctic breeding raptor is an irruptive, low-density migrant and winter resident throughout the Great Lakes region with numbers often varying greatly from year to year at Holiday Beach.

The 2010 season total of 47 Rough-legged Hawks is just slightly above the 10-year average of 43, but down nearly 48% from the 20-year average of 84 (Table 2). The first Rough-legged Hawk of the season, a dark morph, was observed on 3 October after which only two others were recorded during the month on 9 and 11 October. The start of November signaled a large influx of Rough-legged Hawks passing Holiday Beach with the peak 10-day period occurring from 1-10 November when 34 or 72% of the season total was recorded. The one-day high count occurred at the start of this period on 1 November when 14 Rough-legs Hawks were tallied. After a great start to November, only a few small, scattered flights of Rough-legs occurred later in the month with the last observation of the season being of two individuals on 23 November. As is often the case at nearly all Great Lakes hawkwatches, light morphs greatly outnumbered dark morphs at Holiday Beach in 2010 by a factor of about 8 to 1. Rough-legged Hawks comprised only 0.06% of the season's raptor total in 2010.

Golden Eagle (*Aquila chrysaetos*)

Few raptors elicit such an enthusiastic response from hawkwatchers as the Golden Eagle. With a sizeable, but limited breeding population in the east, Golden Eagles are one of the most highly sought after raptors at Great Lakes hawkwatches. Numbers in the east have been on the rise over the last 40 years,

allowing many an opportunity to see this awe-inspiring species pass Holiday Beach each fall.

A 2010 season total of 96 Golden Eagles tops both the 10-year and 20-year averages of 77 and 76, respectively by approximately 25% (Table 2). This total ranks as the fourth highest all-time behind the record season high of 134 in 1999, and near-record totals of 133 in 2008 and 102 in 2000. The first Golden Eagle of the season, a juvenile was recorded on 20 October after which only seven others were recorded by the end of the month. After a slow start in October, numbers greatly picked up into November with the peak 10-day period occurring from 7-18 November when 54 or 56% of the season total was recorded. The one-day high count occurred about halfway through the 10-day period on 12 November when 13 eagles were tallied. Numbers remained low, but consistent through the end of the month with the last three Golden Eagles of the season tallied on 29 November. Additionally, a concerted effort was made to broadly age Golden Eagles passing the site; of the 96 tallied, 58 were identified as juveniles (immatures), 25 as subadults, 12 as adults, and one unknown. Golden Eagles comprised just over 0.1% of the raptor total in 2010.

American Kestrel (*Falco sparverius*)

Being the smallest and the most common roadside falcon throughout its North American range, the American Kestrel is a regular site each fall passing Holiday Beach. Although the kestrels remain widespread, for reasons that are not yet clear the species has experienced dramatic declines throughout its eastern range over the last 20 years. This decline has allowed the species to become of special conservation concern in many states and provinces with the hope that conservation efforts will reveal insights into the causes for its decline.

A season total of 1,458 American Kestrels was recorded at Holiday Beach in 2010, nearly 22% below the 10-year average of 1,840, and over 44% below the 20-year average of 2,612 (Table 2). This ranks as the third lowest total in the last twenty years, and is only a quarter of the all time season high of 5,501 recorded in 1991. Kestrel migration gradually picked up through the first half of September before peaking during the last half of the month when 535 or 37% of the season total was recorded over the 10-day period from 18-27 September. The season's one-day high count occurred towards the end of this period on 25 September when 217 kestrels were tallied. Numbers then continued to remain low, but consistent into the first half of October, after which numbers dropped considerably during the second half of the month. Amazingly, no observations of Kestrels were recorded during the month of November, marking only the third time in 36 years of migration monitoring that the species had not been observed in November. The last observation of the season occurred on 30 October when four Kestrels were observed passing the site. American Kestrels comprised about 2% of the season's raptor total in 2010.

Merlin (*Falco columbarius*)

A small and aggressive falcon, the Merlin is becoming an increasingly common sight at hawkwatches across the Great Lakes region. The southerly expansion of its breeding range and its newly acquired tolerance for urban and suburban environments over the last decade has likely contributed to the species increase in numbers throughout the east.

A record high season total of 130 Merlins was recorded at Holiday Beach in 2010, nearly 51% above the 10-year average of 86, and 60% above the 20-year average of 81 (Table 2). The total falls just ahead of the previous all-time season high of 122 set in 2006 and tied in 2009. The peak 10-day period for Merlins occurred early in the season when 50 or 38% of the season total was recorded from 10-19 September. Numbers remained consistent in the single digits throughout October up until the end of the month when an unusually high movement of 15 Merlins was recorded on 30 October. This represents the season's one-day high count and falls just below the all-time one-day high of 16 recorded on 20 September 2005. Numbers dropped considerably in November with only seven observations totaling nine individuals recorded, and the last single observation occurring on 25 November. Merlins comprised nearly 0.2% of the season's raptor total in 2010.

Peregrine Falcon (*Falco peregrinus*)

Arguably, the most widely recognized of the world's falcon species, the Peregrine Falcon is a creature whose "awesome mastery of its element sets new standards for the word 'perfection'." (Dunne, et al., 1988). After the eastern North American population reached an all time low in 1975 due to the effects of pesticide use, populations have rebounded tremendously over the last 20 years to where Peregrines have become a regular sight at hawkwatches all across the east.

A season total of 49 Peregrine Falcons was recorded at Holiday Beach in 2010, about 20% below the 10-year average of 61 and 14% below the 20-year average of 57 (Table 2). This year's total is in large contrast to 2009 when an exceptional 108 Peregrines were tallied – over twice the 2010 total and falling just behind the all-time season high of 114 recorded in 2006. After scattered observations throughout the month of September, the peak 10-day period for Peregrines occurred from 29 September to 8 October when 18 or 37% of the season total was recorded. The one-day high count occurred about mid-way through this period on 3 October when six Peregrine Falcons were tallied. Numbers of Peregrines began to decrease by late October with only four observations totaling six individuals recorded after 15 October. No observations of Peregrine Falcons were made throughout the month of November, marking only the second time in the last twenty years that the species was not observed in November. The last observation of the season occurred on 30 October when three Peregrines were observed passing the site. Peregrine Falcons comprised only 0.07% of the season's raptor total in 2010.

Mississippi Kite (*Ictinia mississippiensis*)

A common breeder in the temperate and sub-tropical forests of the central and southern United States, Mississippi Kites are a rare, but regular visitor north to the US-Canadian border. Most often occurring as a spring overshoot during the months of May and June, fall records are exceptionally rare as far north as Ontario (Ontario Bird Records Committee 1982-2009).

On 8 September, a juvenile Mississippi Kite was observed as it appeared out over the tree line east of the hawk tower after which it circled a few times before disappearing out of sight below the tree line. The observation represents the first official record of Mississippi Kite in the site's history, and the 19th species of raptor to be recorded for the fall raptor migration

count at Holiday Beach. If accepted by the Ontario Bird Records Committee, the record would represent the third fall record of the species for the province of Ontario (Alan Wormington, personal communication, 8 September 2010).

NOTABLE NON-RAPTOR OBSERVATIONS

In addition to raptors, the fall migration season at Holiday Beach Conservation Area was highlighted by several noteworthy non-raptor observations. The weather was relatively mild for most of the fall season before several strong low-pressure systems moved through the region during the second half of November.

Waterfowl

The waterfowl migration was dominated by several hundred Mallard, Gadwall, and American Wigeon along with smaller numbers of Wood Duck, Green-winged Teal, American Black Duck and Northern Shoveler that were present daily at the adjacent Big Creek Marsh throughout the latter half of September into late October. Notable amongst the waterfowl flocks in Big Creek Marsh was an apparent hybrid Gadwall x Mallard ("Brewer's" Duck) observed in amongst a flock of Gadwalls on 21 October. Observations of one to four Blue-winged Teals were made between 14 and 24 November and were notable for the late dates. Present almost daily on Lake Erie through the month of November was a large raft of approximately 500 Scaup species, along with small numbers of Red-breasted Merganser, Bufflehead, and Common Goldeneye.

The first Tundra Swans of the season were noted on 29 October, after which small numbers remained consistent into late November.

Two migrating flocks of seven and 47 Snow Geese observed on 22 and 24 November, respectively were the geese highlights of the season.

Waders

About two-dozen Great Egrets frequented Big Creek Marsh daily from September through late October with the last observation of the season occurring on 8 November. A Cattle Egret observed in-flight and then perched on the "eagle tree stumps" in Big Creek Marsh was the most notable wader observation of the season.

Cranes

A season total of 64 Sandhill Cranes were observed flying west past the hawk tower throughout the month of November with the first observation of the season occurring on 9 November. The bulk of the season total was made up of a flock of 50 cranes that passed the hawk tower on 28 November and also provided the last observation of the season.

Shorebirds

A Wilson's Phalarope observed in-flight amongst two Lesser Yellowlegs on 2 September constituted the season's shorebird highlight. Small numbers of Wilson's Snipes, Solitary Sandpipers, and Greater and Lesser Yellowlegs made several fly-by appearances throughout the season and occasionally stopped in at the pond SE of the hawk tower.

Other notable shorebird observations were of a flock of eight Dunlin on the park beach on 11 October, single

Black-bellied Plovers on 20 and 22 October, and two migrating flocks of three and 22 American Golden Plovers observed on 9 September and 27 October, respectively.

Nighthawks

Small numbers of Common Nighthawks were observed almost daily over the woods northeast of the hawk tower throughout September into the first half of October with the last observation of the season occurring on 10 October.

Hummingbirds

Ruby-throated Hummingbirds made regular passes by the hawk tower throughout September with peak movements of 27 and 21 hummingbirds occurring on 8 and 13 September, respectively. The last hummingbird observation of the season occurred on 16 October.

Woodpeckers

Red-headed Woodpeckers migrating past the tower were a rare, but regular sight in September with a season total of seven. Locally uncommon were several Hairy Woodpeckers that made appearances throughout the season with some lingering for a few days before moving on.

Flycatchers

A calling Acadian Flycatcher observed from the hawk tower on 1 September constituted the season's highlight, while observations of Yellow-bellied Flycatchers on 1 and 5 September, and an Olive-sided Flycatcher on 10 September were also notable.

Swallows

The swallow migration was highlighted by observations of small numbers of Cave Swallows moving past the hawk tower in late October and early November. This widespread movement of Cave Swallows occurred throughout southern Ontario with observations totaling over 120 individual Cave Swallows being made further east along the Lake Erie shoreline from locations such as Point Pelee National Park and Rondeau and Long Point Provincial Parks (Ontario Birding Listserv Archives, October 2010). Also associated with the Cave Swallow movement were several observations of seasonally late swallow species such as Tree, Cliff, and Northern Rough-winged Swallows. Beginning with the observation of two Cave Swallows at Holiday Beach on 27 October, additional observations of Cave and Cave/Cliff Swallows included: two to three Cave Swallows and a Cave/Cliff Swallow on 28 October, three Cave Swallows on 29 October, and two Cave/Cliff Swallows on 4 November. Perhaps the most unexpected swallow observation during this period was of a Martin (*Progne*) species moving west past the hawk tower on 28 October. Based on plumage, the bird appeared to either be an immature male Purple Martin or one of the "Snowy-bellied" Martins (Caribbean, Cuban, or Sinaloa Martin) that are resident in Mexico and the Caribbean. Unfortunately the separation of these three species from Purple Martin is not well known and with the lack of photographic documentation, it is nearly impossible to assign the record to a species.

Other notable swallow observations included a large movement of 1,382 Purple Martins on 1 September, along with an exceptionally late Tree Swallow that was observed moving west past the hawk tower on 23 November.

Larks

The first Horned Larks of the season were observed on 15 September, after which numbers gradually increased through October. A peak in mid-November with a one-day high count of 252 Horned Larks on the 15th. Small numbers were then observed almost daily into late November with a season total of 1,554.

Crows

The first major movement of American Crows occurred on 12 October with the one-day high count of 70,000 occurring 29 October. Large numbers of crows continued moving into November with the last major movement of the year occurring on 24 November following a season total of 106,581.

Jays

The Blue Jay migration began on 19 September and peaked in late September and early October with the one-day high count of 41,000 occurring on 9 October. By mid-October the migration had subsided to where only a few small groups lingered past into early November. After the last major moving day of the season on 16 October, a total of 186,113 was the season's final tally. This is in large contrast to the number of Blue Jays recorded in 2009 when a record setting total of 946,000+ were tallied between 12 September and 27 October (Bosler 2009).

Chickadees

A southern movement of Black-capped Chickadees took place this fall with many loose flocks observed migrating past the hawk tower in late October and early November. Following the first major movement of the season on 17 October, the one day high count of 698 occurred shortly after on 22 October. This was followed two days later by the season's second highest one-day count of 602 on 24 October, after which several counts ranging from a few dozen to a few hundred individuals were made on consecutive days. By 12 November the movement had slowed considerably with a season total of 3,320. A Boreal Chickadee that was heard calling from the hawk tower within a migrating flock of Black-capped Chickadees on 1 November was one of the season's best non-raptor highlights and likely represents the first recent historical observation of the species in Essex County.

Warblers

Warbler migration peaked during the first half of September with several consecutive days of 10 or more warbler species observed from the hawk tower. A Yellow-breasted Chat seen on 6 September was the season's highlight, followed by the 23 species of warblers that were observed on 10 September. Also notable was a late Orange-crowned Warbler observed on 4 November.

Sparrows

A total of 11 species of sparrows were observed throughout the season with most common being White-throated Sparrow, many of which spent the month of October around the hawk tower. At times they were joined several Dark-eyed Juncos, Swamp, Song, and American Tree Sparrows, along with small numbers of Eastern Towhee, White-crowned, Fox, and Lincoln's Sparrows.

Blackbirds

Flocks of migrating Red-winged Blackbirds along with smaller numbers of Common Grackles and Brown-headed Cowbirds were a regular sight throughout much of the season from late September into November. The first Rusty Blackbird of the season was observed 27 September, after which several flocks made regular appearances up until the season's last observation on 20 November.

Finches

Flocks of American Goldfinches were observed on a daily basis throughout the entire season from September to November with a peak in numbers occurring early and late in September when the one day high counts of 336 and 280 were observed on 5 and 30 September, respectively. Numbers remained high into October before gradually decreasing in November following a season total of 2,477.

Pine Siskins staged a noticeable movement this fall with many small flocks passing the site on an almost daily basis from early October to late November. Numbers peaked in mid-October with the one-day high count of 50 occurring on 17 October. Numbers remained consistent into late November with a season total of 414.

Purple Finches were uncommon throughout much of the fall with the majority of observations occurring over a two week period in late October and early November. The one day high count of 19 occurred on 1 November, while a season total of 52 were tallied from 19 October to 9 November.

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To view HBMO's 2010 fall raptor count summaries go online to: www.hawkcount.org.

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