

With An Eye on Raptors

Manitoba's Premiere Spring Raptor Migration Count Site: The Pembina Valley

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Summary

The Pembina Valley in southern Manitoba, Canada, is an important corridor for spring migrating raptors. It lies within the Aspen Parkland Ecoregion. The valley's wooded slopes are important in generating thermals that are used by raptors to conserve energy during flight. Thirteen species of raptors are regularly seen in the valley with the Red-tailed Hawk the most abundant. Annual counts of this species range from about 3,700 - 8,300, making the Pembina Valley location the site with the highest average count of Red-tailed Hawks in North America. Total raptor counts in spring have exceeded 10,000 birds on two occasions. Opportunistic counts were made by birdwatchers from 1985-2004 and standardized counts from 2005-2010. The Pembina Valley (Windygates) count is coordinated by A Rocha, an international conservation organization.

Introduction

In April 1985, Al Schritt, a teacher from southern Manitoba, along with a few students took an excursion to Manitoba's beautiful Pembina Valley, located 150 km southwest of Winnipeg. During the outing, they observed many migrating raptors, and Al determined he would return the following year to investigate whether more raptors used this glacial valley. He and his wife Dorothy, both avid birdwatchers, did find more birds. In fact, they discovered more migrating raptors than had ever been counted anywhere else in the province.

As word spread about the raptor migration in the Pembina Valley, birdwatchers and the interested public made annual trips to watch and count the hawks, eagles and vultures enroute on their northward migration. Typically, most enthusiasts came out in late March or early April when milder temperatures and longer daylight hours provided incentives to experience spring. The appearance of raptor watchers often coincided with the height of the raptor migration, particularly that of the Red-tailed Hawk. The more serious observers kept careful track of numbers and species on each of their visits to the valley, often sharing notes with others to see how numbers were adding up. Although there was no coordinated effort to monitor these birds of prey, summary totals were reported frequently in National Audubon Society and American Birding Association publications during 1985-2004.

In 2005, A Rocha, an international conservation organization, initiated the first standardized count to document the Pembina

Valley raptor migration (Schritt et al. 2007). The intent of the project was to determine how many raptors used the valley during the spring migration. A protocol was developed to ensure subsequent counts were standardized. In total, six migration counts have been carried out. Funding for the project comes primarily from private donations.

The Pembina Valley

The Pembina Valley is located in southern Manitoba and northeastern North Dakota. The Pembina River, which flows through the valley, originates in the Turtle Mountains about 225 km southwest of Winnipeg. The river flows southeastward for 550 km, eventually emptying into the Red River near Pembina, North Dakota.

The valley lies within the Prairie ecozone but is predominately in the Aspen Parkland ecoregion. The mostly wooded valley slopes are dominated by Bur Oak, Aspen, American Elm and Green Ash. In places, a thick understory of shrubs occurs including Saskatoon, Choke Cherry, High Bush Cranberry and Beaked Hazel. Several lakes are found in the valley including Rock, Lenore and Swan lakes. Crop and livestock agriculture and recreation are the predominate human activities in the valley. At its origin, the Pembina River's elevation is approximately 720 m above sea level (ASL) dropping to about 330 m ASL by the time it empties into the Red River. The valley's width is variable but at its maximum stretches about 6 km.

Count Site

The Pembina Valley raptor count site is located 7 km northeast of Windygates and is officially known as the Pembina Valley Windygates site. Counting is done along Provincial Road 201 (PR 201), which winds through the valley from south to north and crosses the Pembina River at Holo Crossing. This permits counters access to any transverse portion of the valley. The ability to travel within the valley is extremely important as the wind direction determines whether raptors are flying over the valley's north or south slope or down its center. The valley narrows to about 2 km where the PR 201 and the Pembina River intersect, making it easier for counters to monitor the entire width of the valley at the count site.

Count Procedures

The Pembina Valley raptor count is held only during the spring migration. Counts begin in late February or early March and continue to about the third week in April. Two

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paid counters are responsible for collecting the daily data and ensuring that count protocols are followed. In addition to these counters, birdwatchers and interested observers visiting the site help by spotting or counting birds. This assistance is particularly helpful during the peak migration period in late March and early April when increased numbers of migrating raptors making tracking and counting more of a challenge.

Each day the primary counters discern which direction the wind is coming from to determine on which side of the valley to begin the count. Once the count location is decided, the counters begin collecting hourly data on the number, species, color morphs (for some raptors) as well as recording the temperature, visibility, wind direction, wind speed (Beaufort Scale) and number of competent observers. The number of visitors to the site is also tracked daily.

Careful attention is paid to changes in wind direction as counters must move to new locations along the road to assure optimum visibility for viewing raptors. Location shifts can vary from none to four times a day. Early in the season, counts typically begin about 0900-1000 h Central Standard Time (CST) as thermal activity is limited and it is assumed that most raptors begin flying later in the morning. As the spring season advances and mean temperatures rise, counts begin as early as 0800 h CST. Generally, the daily count ends after 30 minutes pass with no raptor being seen at what is assumed to be the end of the raptor migration for the given day. Early in the season this may be mid-afternoon, but later in the season the count may go as late as 1900-2030 h.

Species Highlights

The following 13 species of raptors regularly migrate through the Pembina Valley during the spring migration: Turkey Vulture, Osprey, Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Red-tailed Hawk, Rough-legged Hawk, Golden Eagle, American



Counting raptors in Manitoba's Pembina Valley.
Photo by J.P. Goossen.

Kestrel, Merlin and Peregrine Falcon. Swainson's Hawk and Ferruginous Hawk both occur infrequently in the valley. The most abundant migrant is the Red-tailed Hawk whose numbers can exceed 8,000 in a single season. On rare occasions (four times since 1989), daily counts have exceeded 3,000, giving raptor counters a challenge to keep up with the tally.

Significance

The Pembina Valley is a northern Great Plains river valley migration corridor and one of the northernmost spring raptor migration sites in North America. Riverine corridors are often used by migrating raptors (Goodrich and Smith 2008), and Manitoba is no exception as both the Pembina and Red rivers are known as migration sites (Manitoba Avian Research Committee 2003). The Pembina Valley is Manitoba's premiere spring raptor migration site hosting numbers of raptors unparalleled in the province. It is a particularly important migration corridor for Golden Eagles, which are rarely seen in Manitoba during any season of the year. The Golden Eagle count in the valley is the second highest in eastern North America. The valley is also a major route for Red-tailed Hawks, whose seasonal numbers not only are the highest in Manitoba but also on average, exceed mean counts of any North American spring count.

The Pembina Valley is also important to many other migratory birds. Thousands of passerines migrate through this corridor each spring. Application has been made to designate a portion of the Pembina Valley an Important Bird Area. A Rocha hopes that this recognition will give the valley greater prominence for its biodiversity and for the need to protect this important landscape.



Spring conditions in Manitoba's premiere spring raptor migration corridor - the Pembina Valley. Photo by J.P. Goossen.

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Acknowledgments

We are indebted to Agassiz Credit Union, Allmar International, Bill and Margaret Fast Family Foundation, Irwin and Irene Pauls, Marvin Goossen, Paul and Valorie Goossen, and Randy Goossen for their financial support of this raptor migration project. We thank the many birdwatchers and interested observers who have assisted with the counts including Luc Blanchette, Colin Conroy, Matthew and Jeanette Giesbrecht, Rudolf Koes, Bob Shettler and Ron Wiebe. Thanks also to Jack Nichol for use of his property to monitor raptors. We also thank Valorie Goossen for helpful editorial assistance.

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Red-tailed Hawk. Photo by Steve Byland

