The Occurrence and Identification of Swainson's Hawk in Ontario©

by
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Introduction

Swainson's Hawks (*Buteo swainsoni*) are rare visitors to Ontario, most often being seen on migration. This paper examines the occurrence of the species in the province and compares it with reports from the rest of eastern North America as well as the migration in the west. Descriptions of the two colour phases, both as adults and immatures, are included to assist in field identification.

Occurrence in Ontario

Sixteen records of Swainson's Hawk in this province have been accepted by the Ontario Bird Records Committee. In addition, two specimens, one in the National Museum of Natural Science, Ottawa and the other in the Smithsonian Institution, Washington, D.C. have been obtained in Ontario. All are listed in Table 1.

These records appear to involve spring and fall migrants, mostly light phase birds, with the majority being seen in the autumn. Since the three late nineteenth century specimens, there have been only two sightings prior to 1975 and 13 from 1975 to 1985.

Since the Swainson's Hawk is a western species with a summer range in the prairies and a winter home in the pampas of Argentina, this paucity of Ontario records is hardly surprising. In Figure 1 and Table 2 additional sightings[1] for the eastern part of the continent north of Florida are indicated. The map is not a complete record of Swainson's Hawk sightings but does give an indication of where, when and how frequently they have occurred. It also permits comparison with the Ontario records.

Figure 1 indicates locations and seasonal occurrence of 108 eastern North American records of Swainson's Hawks. Of these, 20 were aged and 24 had colour phase recorded. Table 3 summarizes these along with ages and colour phases of Ontario birds.

The figures in Table 3 are not of much significance since the majority of non-Ontario sightings, bandings and collections were not

[1] These records come from various state and provincial avifaunas, regional reports for *American Birds*, Hawk Migration Association of North America site reports and personal communications from a number of raptor experts. For this paper, I am assuming that these identification are correct.

Table 1: Records of Swainson's Hawk in Ontario: 1881–1985.

Date	Location	Age & Colour Phase	Source
10 Apr. 1977	Grimsby, Niagara Region	adult, light	Wormington (1986)
14 May 1984	Point Pelee, Essex Co.	immature, light	Wormington (1985)
19 May 1983	Rainy River, Rainy River District	adult, light	James (1984)
22 May 1894	Willowdale (Toronto), York R.M.	adult (female)*, dark	Wormington (1985)
25 May 1982	Moose River mouth, Cochrane District	adult, light	Wormington (1985)
5 Sep. 1890	Toronto, York R.M.	immature (male)*, light	Wormington (1985)
13 Sep. 1975	Port Stanley, Elgin Co.	immature, light	Wormington (1985)
15 Sep. 1980	Port Stanley, Elgin Co.	adult, light	James (1984)
15 Sep. 1981	Holiday Beach, Essex Co.	adult, light	James (1983)
19 Sep. 1976	Port Stanley, Elgin Co.	adult, light	Wormington (1985)
19-27 Sep. 1984	Rock Point Prov. Park, Haldimand-Norfolk R.M.	immature, light	Wormington (1985)
26 Sep. 1984	Port Rowan, Haldimand-Norfolk R.M.	adult, light	Wormington (1986)
3 Oct. 1933	Bellview, Ottawa-Carleton R.M.	immature (female)*, light	M. Gosselin (pers. comm.)
3 Oct. 1976	Port Stanley, Elgin Co.	immature, light	Wormington (1985)
20 Oct. 1985	Port Stanley, Elgin Co.	adult, light	Wormington (1986)
22 Oct. 1933	Burlington, Hamilton-Wentworth R.M.	———, light	Wormington (1985)
27 Oct. 1983	Rainy River, Rainy River District	adult, light	James (1984)
undated 1881	Moose Factory, Cochrane District	adult, intermediate	J. Dean (pers. comm.)

* Sexed birds were collected and are housed in the Royal Ontario Museum, Toronto (Specimens #35982 and 35987) and National Museum of Canada, Ottawa (Specimen #25687)

aged nor did they have colour phase noted. In order for a record to be accepted by this province's Bird Records Committee, colour phase and age would probably be necessary. In fact, only one of Ontario's sightings lacks an age or colour phase.

Most of the eastern sightings of Swainson's Hawks are of the light phase, which is the commonest colour in the eastern part of the breeding range. For example, Munro and Reid (1982) write, "Dark phase Swainson's Hawks are uncommon in Manitoba (Gardner 1971), Saskatchewan (Pittman 1943) and Wyoming (Dunkle 1977) but become more abundant in Washington (Bowles and Decker 1934) and California (Sharp 1902)." In the summer of 1984, I saw only one dark phase bird out of 100-plus in a week-long excursion to eastern Colorado. The further west one goes, the more dark phase Swainson's Hawks one sees.

Dunkle (1977) also found that the preference of Swainson's Hawk

for a mate of the same colour was significant ($p<0.05$) although not universal. Because of this scarcity of breeding by light x dark pairs, a union which presumably produces "intermediate" offspring on occasion, the great majority of birds seen are classifiable as "light" or "dark". Alternatively, the so-called "intermediate" phase may be an erythristic or reddish phase, separate from the light and dark phases (Brown and Amadon 1968).

Dates of Occurrence

How do the dates of eastern sightings elsewhere compare with Ontario's? Ontario records are as follows:

Spring (5 sightings):
10 April - 25 May.
Fall (12 sightings):
5 September - 27 October.

At approximately the same latitudes (i.e., Quebec, Maine, Vermont, New York, Rhode Island and Massachusetts), the following results were obtained:

Spring (15 sightings):
31 March[2] then
20 April - 31 May.
Fall (15 sightings):
22 August[2] then
9 September - 1 November.
(There are also single winter records from Rhode Island and Massachusetts and one summer record from Rhode Island).

Ontario's records fall within the extremes noted to the east of us.

When these occurrences are graphed along with Michigan records, which are also at the same latitudes, (Figure 2) there appear to be two peaks for both spring and fall migrations. The data are, however, scanty and become even more meagre if only known-age birds of this group are plotted (Figure 3). There is some indication that in general, immatures precede adults during the fall, as is true for Red-tailed Hawks *(Buteo jamaicensis)* at these latitudes (Duncan 1983). Remember, though, that this statement is based on only 17 occurrences. The trends of more adults vs. immatures and the earlier sightings of immatures in spring are based on only nine occurrences and are, therefore, even more speculative than statements concerning the fall migration.

Just west, in Minnesota, Wisconsin and Michigan, again at similar latitudes, sightings made mainly from the major hawk lookouts and banding stations (Hawk Ridge, Minnesota; Cedar Grove, Wisconsin; Little Suamico, Wisconsin and Whitefish Point, Michigan) are as follows:

Spring (5 sightings):
4 April - 19 May.
Fall (41 sightings):
31 August - 21 October.

These data are taken from Beebe (1933), Green and Janssen (1975), Mueller and Berger (1959), Wood (1943), J. Baumgartner (pers. comm.), D. Brinker (pers. comm.) and D. Evans (pers. comm.). Most of the Ontario sightings fall within these dates, although there are one spring and two fall records later than these.

[2] Since 31 March and 22 August are exceptionally early dates, they are separated from the more typical dates above.

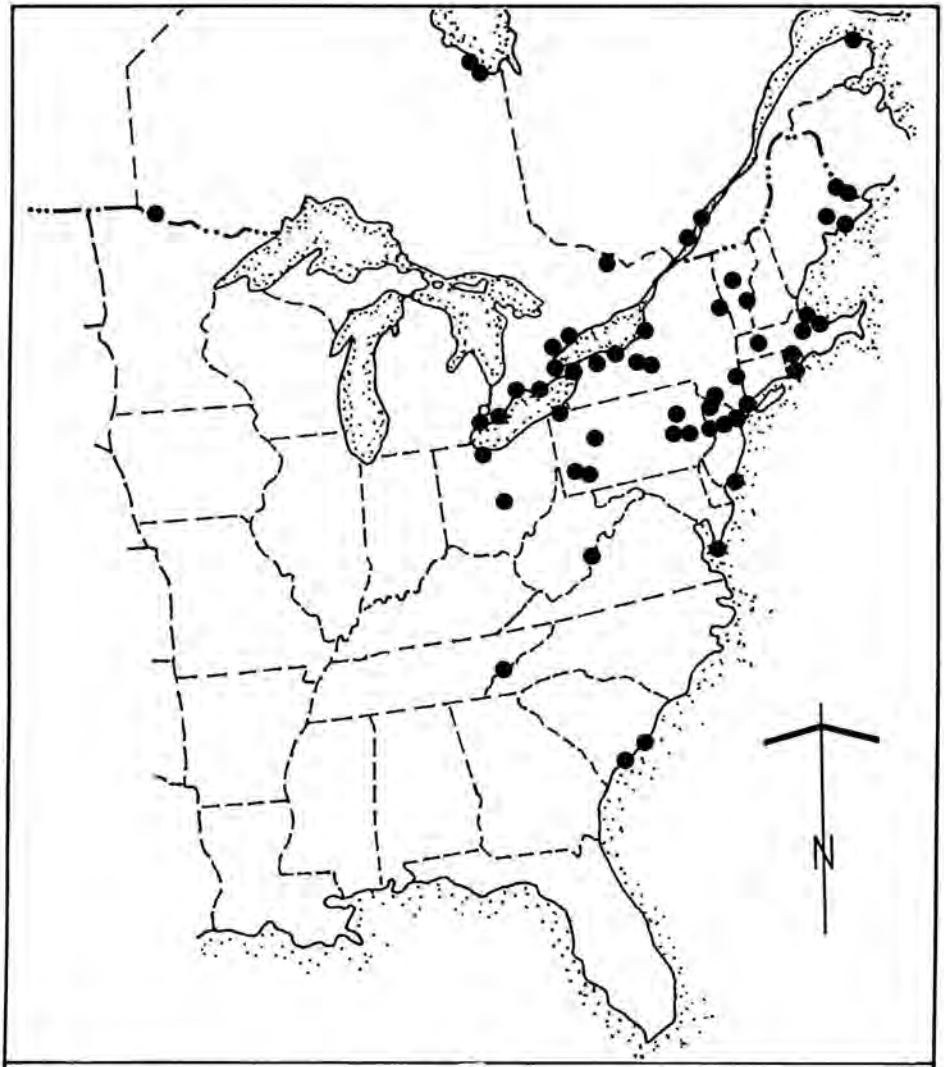

Figure 1: Occurrence of Swainson's Hawks in eastern North America (excluding Florida): 1871 – 1985.

	PROVINCES AND STATES														
	ON	**PQ**	**ME**	**VT**	**NY**	**RI**	**MA**	**PA**	**OH**	**NJ**	**VA**	**WV**	**SC**	**TN**	**Total**
Spring	5	2	2	1	6	2	2	1		1					22
Summer		1				1			1	2					5
Fall	12	1	2	1	6	1	3	14		33	1	1	2	1	78
Winter							1		1						2
Undated	1														1
TOTAL	18	4	4	2	12	4	6	15	2	36	1	1	2	1	108

Swainson's Hawks in the west typically migrate in large flocks, travelling as far as 15,000 km each way over a period of about 70 days (Houston 1982). To give some indication of the timing in the usual migratory pathways, Table 4 presents spring and fall dates at different latitudes. At the same latitudes as Ontario's (42°N and north) spring arrivals occur after mid-April. Ontario's records follow a similar pattern with the exception of one slightly earlier sighting (10 April 1977 at Grimsby; Table 1). Western fall departures are mostly complete by late September; however, one third of Ontario's fall records are in October.

To the south and east of Ontario, at Hawk Mountain, Pennsylvania and Cape May, New Jersey (latitudes 38 - 40°N), Swainson's Hawks are seen in November (5 records) as well as earlier in the fall (see Table 2). Some of these birds may winter in southern Florida (latitude 25°N), where migrants noted in *American Birds* for the past ten years have occurred as follows:

September—1 record (on the 4th; described as "very early").
October—4 records.
November—30 records (no later than the 21st).

These data are taken from Edscorn (1976), and Atherton and Atherton (1980, 1981, 1982, 1983, 1984).

As many as 100 Swainson's Hawks have been seen over several days in early November in southern Florida (e.g., Miami in 1952) and 25 were sighted on 7 November 1947 at Boca Chica Key (Sprunt 1952). Some birds, mostly immatures, winter in the Keys and southern tip of the Florida peninsula (Sprunt 1952). It is possible that most of the Swainson's Hawks seen in the east winter in Florida or continue southward in late fall from island to island in the Gulf of Mexico.

Post-Breeding Dispersal

From all of the above it is apparent that in eastern North America, the fall migration (if it can be called such) of Swainson's Hawks is more protracted than in the west at similar latitudes. It is my belief that birds seen as far east as southern Ontario are juveniles wandering from their natal area, second summer birds also wandering, and birds whose "directional instinct" or migratory orientation is different from the "norm". Newton (1979) discussed these differing migratory directions in hawks:

> "Suppose that the birds from a certain breeding area have heritable tendencies to fly in particular directions at migration time and back again in the spring, but that these directions differ from bird to bird. Some birds will then reach suitable areas and many will survive to breed again. Others will reach less suitable areas and fewer will survive, and yet others will reach unsuitable areas and die. Thus those with the most rewarding directional tendencies will perpetuate themselves, and in this way the migratory habits of a population could become fixed (p. 186)."

The few Swainson's Hawks that are seen in winter in the northeastern United States would

Table 2: Eastern Records of Swainson's Hawk north of Florida (excluding Ontario): 1871–1984.

Province/State	Date	Locality	Source
Quebec	"spring" 1894	near Montreal	David (1980)
	28 Apr. 1981	near Valleyfield	David (pers. comm.)
	22 Aug. 1982	Rivière-aux-Rénards, Gaspé	David (pers. comm.)
	17 Sep. 1925	Ste. Anne-de-la-Pérade	David (1980)
Maine	Apr.-May 1977	Moosehorn NWR	Vickery (1978)
	19 May 1888	near Bangor	Brewster (1893)
	15 Sep. 1886	Gouldsboro	Brewster (1893)
	6 Oct. 1892	Calais	Brewster (1893)
Vermont	23 May 1915	Hartland	Bent (1937)
	9 Sep. 1980	Winhall	Kibbe (1981)
New York	31 Mar. 1982	Derby Hill	Klabunde (1983)
	26 Apr. 1979	Derby Hill	Klabunde (1980)
	3 May 1970	Etna	Bull (1974)
	20 May 1979	Braddock Bay	Klabunde (1980)
	24 May 1980	Derby Hill	Klabunde (1981)
	31 May 1980	Derby Hill	Klabunde (1981)
	9 Sep. 1920*	Lake George	Bent (1937)
	1 Oct. 1889	Brockport	Beardslee and Mitchell (1965)
	14 Oct. 1892	Cornwall	Dutcher (1893)
	— Oct. 1877	Onondaga Co.	Bull (1974)
	1 Nov. 1975	Port Jervis	Paxton *et al.* (1976)
Rhode Island	28 Feb. 1971	Tiverton	Conway (1979)
	29 Apr. 1976	Matunuck	Conway (1979)
	"summer" 1934	————	Conway (1979)
	14 Nov. 1964	Matunuck	Conway (1979)
Massachusetts	20 Apr. 1872	Hamilton	Bent (1937)
	29 May 1892	Essex	Bent (1937)
	10 Sep. 1979	Mount Tom	Vickery (1980)
	12 Sep. 1876	Wayland	Bent (1937)
	28 Oct. 1889	Salem	Bent (1937)
	"winter" 1871–1872	————	Brewster (1893)
Pennsylvania	18-20 Apr. 1969	Alleghany Co.	Wood (1979)
	4 Sep. 1978	Presque Isle State Park	Hall (1979)
	5 Sep. 1901	Westmoreland Co.	Todd (1940)
	9 Sep. 1982	Hawk Mountain	L. Goodrich (pers. comm.)
	19 Sep. 1982	Hawk Mountain	L. Goodrich (pers. comm.)
	19 Sep. 1982	Wind Gap	Paxton *et al.* (1983)
	20 Sep. 1971	Berks Co.	Wood (1979)
	26 Sep. 1980	Luzerne Co.	Boyle *et al.* (1982)
	29 Sep. 1977	30 km west of Hawk Mountain	Buckley *et al.* (1978)
	13 Oct. 1977	Hawk Mountain	L. Goodrich (pers. comm.)
	17 Oct. 1966	Jefferson Co.	Wood (1979)
	22 Oct. 1969	Hawk Mountain	L. Goodrich (pers. comm.)

Table 2: (continued)

Province/State	Date	Locality	Source
Pennsylvania (continued)	23 Oct. 1984	Hawk Mountain	L. Goodrich (pers. comm.)
	26 Oct. 1979	Hawk Mountain	L. Goodrich (pers. comm.)
	22 Nov. 1981	Hawk Mountain	L. Goodrich (pers. comm.)
Ohio	4 June 1978	Ottawa NWR	Thompson (1983)
	31 Dec. 1977	New Lexington	Thompson (1983)
New Jersey	23 Apr. 1981	West Orange	Leck (1984)
	5 Aug. 1983	Cape May	P. Dunne (pers. comm.)
	28 Aug. 1982	Cape May	P. Dunne (pers. comm.)
	11 Sep. 1981	Cape May	P. Dunne (pers. comm.)
	12 Sep. 1978	Livingston	Leck (1984)
	12 Sep. 1982	Cape May	P. Dunne (pers. comm.)
	16 Sep. 1973	Cape May	Clark (1976)
	20 Sep. 1980	Cape May	P. Dunne (pers. comm.)
	23 Sep. 1980	Cape May	P. Dunne (pers. comm.)
	24 Sep. 1981	Cape May	P. Dunne (pers. comm.)
	26 Sep. 1981†	Cape May	P. Dunne (pers. comm.)
	29 Sep. 1977	Cape May	P. Dunne (pers. comm.)
	29 Sep. 1980	Cape May	P. Dunne (pers. comm.)
	"23-30 Sep. on" 1984‡	Cape May	P. Dunne (pers. comm.)
	2 Oct. 1981	Montclair Hawk Lookout	R. Kane (pers. comm.)
	4 Oct. 1981	Cape May	P. Dunne (pers. comm.)
	5 Oct. 1977	Cape May	P. Dunne (pers. comm.)
	5 Oct. 1982	Cape May	P. Dunne (pers. comm.)
	7 Oct. 1982	Cape May	P. Dunne (pers. comm.)
	10 Oct. 1982	Cape May	P. Dunne (pers. comm.)
	22 Oct. 1947	Oradell	Leck (1984)
	23 Oct. 1971	New Vernon	Leck (1984)
	26 Oct. 1976	Cape May	P. Dunne (pers. comm.)
	27 Oct. 1976	Cape May	P. Dunne (pers. comm.)
	29 Oct. 1977	Cape May	P. Dunne (pers. comm.)
	31 Oct. 1980	Hunterdon Co.	Paxton *et al.* (1981)
	9 Nov. 1981	Cape May	P. Dunne (pers. comm.)
	17 Nov. 1975	Cape May	Clark (1976)
	19 Nov. 1978	Cape May	P. Dunne (pers. comm.)
	28 Nov. 1976	Cape May	P. Dunne (pers. comm.)
Virginia	20 Oct. 1979	Fisherman Is.	Scott (1980)
West Virginia	16 Sep. 1897	White Sulphur Springs	Surber (1898), Hall (1983)
South Carolina	9 Nov. 1980	Seabrook Is.	Legrand (1981)
	— Nov. 1935	Bull's Is.	Sprunt and Chamberlain (1949)
Tennessee	27 Sep. 1980	Look Rock, Chilhowee Mtn.	Hall (1981)

* Two birds were collected.
† Three birds on this date.
‡ Five birds during this time.

Table 3: Age and colour phase of Swainson's Hawks recorded in eastern North America north of Florida

	Age			Colour Phase			
Location	Immature	Adult	Not Recorded	Light	Dark	Inter-mediate	Not Recorded
Ontario	6 (33.3%)	11 (61.1%)	1 (5.6%)	16 (88.9%)	1 (5.6%)	1 (5.6%)	0 (0.0%)
Other Provinces & States	10 (11.1%)	10 (11.1%)	70 (77.8%)	14 (15.6%)	9 (10.0%)	1 (1.1%)	66 (73.3%)

probably not survive to pass on this tendency to offspring. Browning (1974), in an analysis of winter specimens, bandings and band recoveries of Swainson's Hawks in the United States, found that 82% of 38 records were immatures. He writes: "Immature birds of many species . . . are known to depart from the distribution patterns of adults (p. 866)." In the case of Swainson's Hawk, I believe that this is probably because many of them die before reaching breeding age, particularly those choosing wintering areas with much more severe weather than Argentina. The few adults are the survivors who may pass along the trait to their offspring.

Smith (1985) suggests additional and more immediate reasons for these hawks not leaving North America but notes that they are speculative:

1) They are unable to obtain sufficient food to put on migratory fat; many of the Swainson's Hawks overwintering in North America are subadults (Browning 1974), suggesting that insufficient experience in prey capture might be a factor.
2) Certain individuals may not be "required" to migrate; that is, their food supply is apparently sufficient for them to make only a minor movement.
3) The deposition of sufficient migratory fat may not make a flight mandatory. Should such individuals encounter a "favourable" situation, they might remain.

Besides birds with a different directional instinct from the norm, recently fledged Swainson's Hawks may also drift east before the usual migratory period in the fall. Holt and Frock (1980), through recoveries and retraps of juvenile Red-tailed Hawks banded in Ohio, show that some wander north and east in late summer. Brinker and Erdman (1985) discuss this northeasterly dispersal of young Red-tailed Hawks in relation to the prevailing winds of late summer and early fall. They write:

> "The strong southerly [wind] flows of June and July drift some dispersing immatures northward into the upper Midwest . . . During late summer and early autumn, the influence of the southerly trend sinks south and westerly winds drift birds eastward towards the Great Lakes shorelines or the northwest-southeast trending prairie-forest border. This will tend to drift dispersing immature Western Red-tailed Hawks

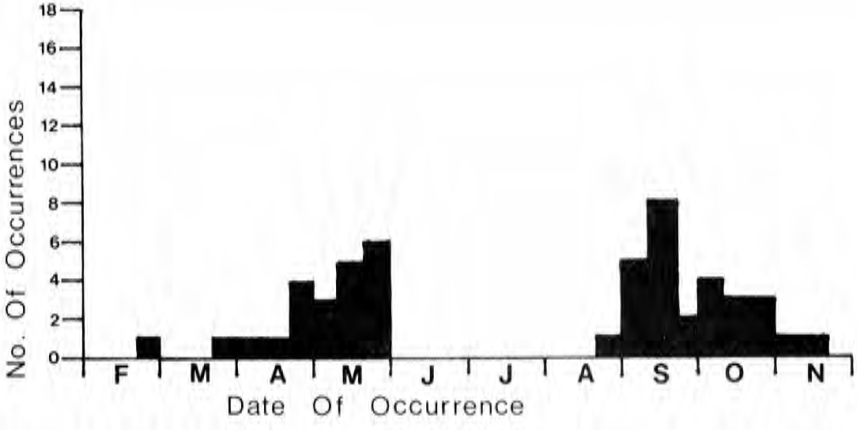

Figure 2: Date of occurrence (by 10-day period) of Swainson's Hawk in eastern North America at latitudes similar to Ontario (including Ontario).

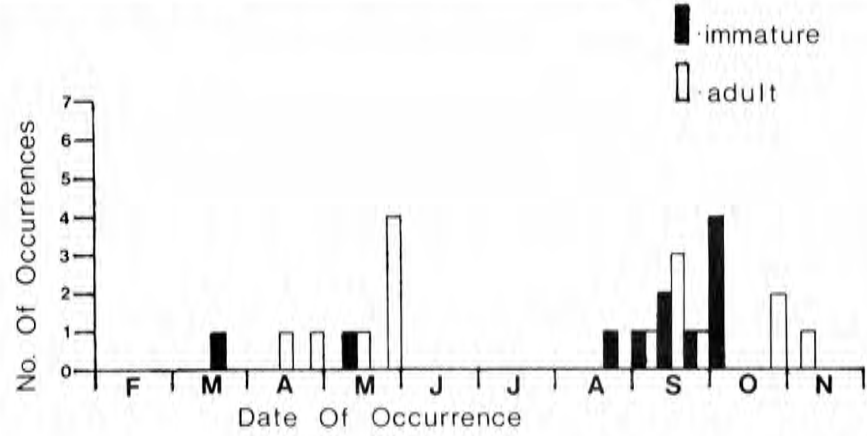

Figure 3: Date of occurrence (by 10-day period) of known-age Swainson's Hawks in eastern North America at latitudes similar to Ontario (including Ontario).

[subspecies *calurus*] and Krider's Red-tailed Hawks [subspecies *krideri*] eastward. This is one of the reasons for occasional observations of plains species such as the Swainson's Hawk in eastern Wisconsin . . . Along with this late summer shift come the first cold fronts that act as triggers for migrant birds (p. 125)."

Swainson's Hawks, as mentioned, are also "pushed" by the winds as they wander from their nest sites. The only evidence of the distances involved in this drift comes from two nestlings banded in Saskatchewan (at about 105°W longitude) in July, 1946 and July, 1953 and recovered in Alabama (87°W longitude), 2,600 km SSE in October, 1946 and in Wisconsin (92°W longitude), 1,300 km SE in October, 1953—both "direct" recoveries (Houston 1968).

Wandering immatures encountering the Great Lakes would, like all of the soaring hawks in North America which are reluctant to cross large bodies of water, be concentrated along the northern and western shorelines during fall migration. Those that go north of Lakes Superior and Huron would probably end up migrating through Ontario, Quebec and the most northeasterly states. Some might cross at Sault Ste. Marie into the Upper Peninsula of Michigan. Others that drift east past the southern shorelines of Lakes Michigan, Erie and Ontario might be seen during migration along the Appalachians or Atlantic coastline (two more strong leading lines for this species). The 22 August 1982 immature collected near Rivière-aux-Rénards in the Gaspé Peninsula of Quebec (N. David, pers. comm.) and the 5 August 1983 unaged individual seen at Cape May, New Jersey (P. Dunne, pers. comm.), both considered very early fall migrants, were more likely wind-dispersed wanderers still drifting.

Yearling Swainson's Hawks, moulting during the summer from immature to adult plumage, normally do not nest and would be more prone to drift with the winds

Table 4: Migration dates of Swainson's Hawk in western North America

Latitude	Location	Spring	Fall	Source
50° & north	Alberta, Saskatchewan, Manitoba	usually past mid-April	all leave by early September	Salt & Salt (1976)
42-45°N	Wyoming	18 April-3 May	23 August-20 September	Bent (1937) Dunkle (1977)
about 39°N	Colorado	11 March (early)-20 April	25 August-8 October	Bent (1937)
about 35°N	Oklahoma	16 April (peak)	mid-late September	Donohue (1980, 1981)
35°N	New Mexico	———	1-29 September	Hoffman (1982)
about 30°N	Texas	18 March (early)-5 May	mid-September-mid-October	Donohue (1979a, b; 1982), Sexton (1983a, b; 1984, 1985)
about 90°N	Panama	March-early April	mostly October-early November	Ridgely (1976)

than would nesting adults on territory. I believe that most of the adults seen in the east in fall are these non-nesting birds in fresh plumage. I also think that more drifting immature than adult Swainson's are sighted in the east simply because the young birds are inexperienced in migration, while even yearlings have made the round trip once. They thus may somehow 'know' that eastward dispersal is not a particularly appropriate behaviour for a bird that should move to Argentina for the winter. Note that I am distinguishing these migrants from the wintering birds in the east discussed earlier. A possible explanation of why the majority of Ontario sightings involve adults is provided below.

An interesting test of the above hypothesis would be to examine the number of dark phase adult vs. immature birds seen in the east. These are, in general, the westernmost members of the Swainson's Hawk population and so would need to drift furthest in order to appear in the east during fall migration. If, according to my thinking, juveniles wander with less reluctance than adult-plumaged birds, then the ratio of immature to adult dark phase Swainson's appearing in the east should be higher than the ratio of immature to adult light phase birds since the latter would probably be travelling considerably shorter distances. Unfortunately, ageing a dark phase Swainson's Hawk as it flies by is not always easy. This is a question that specimens and banding data may answer. Of all the fall records I have researched, none of the dark phase birds has been aged.

Spring Sightings

Spring records of Swainson's Hawks are less frequent than fall records. This is understandable, since the fledgling and yearling dispersal of late summer and early fall has no concomitant in spring and mortality during winter has also reduced the population. The April and May sightings may refer to hawks from southern Florida or birds drifting northeastward on strong winds away from the traditional western flyway. A single Swainson's Hawk in this situation might easily attach itself to a group of Broad-winged Hawks *(Buteo platypterus)*, another flocking migrant, and come northeast with them (Figure 4). This phenomenon is not unknown, particularly where flocks of the two species migrate together such as Panama (Ridgely 1976). Again, I believe that most birds would be immatures who have not migrated north before. What information I have however, does not support this: of six birds aged, four were adults, and two were immatures. However, identification of light phase adults is much easier than immatures.

Summary

The records of Swainson's Hawk in the east show a great increase in sightings, beginning in the 1970s. There are several reasons for this:

1) There are far more skilled observers in the field now than 15 years ago.
2) Hawk watching and banding at concentration points have become extremely popular and daily observations throughout the spring and fall migrations

Figure 4: Migrating Swainson's Hawks and Broad-winged Hawks, Costa Rica, March 1986. Photo by Ron Ridout.

are made by very expert observers.

3) Swainson's Hawks are gradually expanding their nesting range eastward.

Before the prairies were settled, this bird was the common buteo of the countryside (e.g., Manitoba before 1892; see Thompson 1891) until settlers began persecuting it as a "henhawk". With changing attitudes, education, tree planting in previously untreed areas (see Gilmer and Stewart 1984) and protective legislation, the bird has recently nested in places such as Winnipeg (Munro and Reid 1982), eastern Illinois (Keir and Wilde 1976) and eastern Minnesota (Johnson 1982), where it had been absent for many years. There are even recent unconfirmed summer reports from the Rainy River/ Lake-of-the-Woods area of western Ontario.

Identification

Swainson's Hawk is about the size of a Red-tailed Hawk but in flight shows longer, narrower, more pointed wings. During soaring, the wings are held in a slight dihedral, shallower than that of Northern Harrier (*Circus cyaneus*) or Turkey Vulture (*Cathartes aura*). I noticed a few birds in Colorado occasionally rocking during flight.

Light phase adults (Figures 5 and 6) are distinctive and shown well in all the field guides. (Ignore the *Audubon Society Field Guide to*

North American Birds: Eastern Region (Bull and Farrand 1977) which claims that the tail is brown.) Watch for dark, barred flight feathers contrasting with white to buffy wing linings, an extensive brown breast band, whitish throat and grey tail that at a distance appears darker at the tip, shading to paler grey towards the base. The breast band is extremely variable in extent, very often not extending onto the belly but sometimes covering both breast and belly and becoming fine tawny bars on the lower belly and legs. The back is a fairly uniform dull brown or grey-brown and lacks the white markings of the Red-tail. There may be fine (less than 5 mm) tawny or rufous edges to some back and wing covert feathers. A white area on each side of the rump and upper tail is visible in flying birds, both adult and immature light phase, when seen from above.

At close range the tail banding of light phase adults can be seen: the grey-brown tip, dark subterminal bar that is twice the thickness of the others in the tail, and the fine, wavy bars from there up. The base colour pales proximally. Perched, the bird's folded wings appear quite pointed and extend virtually to the tip of the tail. The tarsi are feathered halfway down in front only and are bare and yellow below that. The breast band is typically reddish-brown although this varies. There is a narrow whitish area behind the cere, sometimes continuing as a superciliary stripe.

Figure 5: Adult light phase Swainson's Hawk, Texas, March 1977. Photo by Barry Cherriere.

Dark phase adults (Figure 6) appear to be fairly uniformly dark brown in body and flight feathers. The underwing coverts have a variable amount of rufous in them (lacking in flight feathers) although this may be almost impossible to see in the field. The tail is the same as for light phase but may have a wider subterminal dark bar. There is usually a small light area behind the cere. Dark phase Rough-legged Hawks (*Buteo lagopus*) are superficially similar but the pale flight feathers distinguish them readily. Immature western Red-tailed Hawks (subspecies *calurus*) may be a problem since they also appear regularly but in small numbers in Ontario. These birds differ in flight style and wing shape and have pale wedge-shaped areas ("wing windows") in the primaries (as in immature eastern Red-tails (subspecies *Borealis*)), lighter coloured flight feathers and some rufous in the chest and belly. The rufous colouring is not usually visible on a flying bird. The tail is brown with fine dark bars above and below.

Immature dark phase Swainson's (Figure 7) present a more mottled appearance than adults.

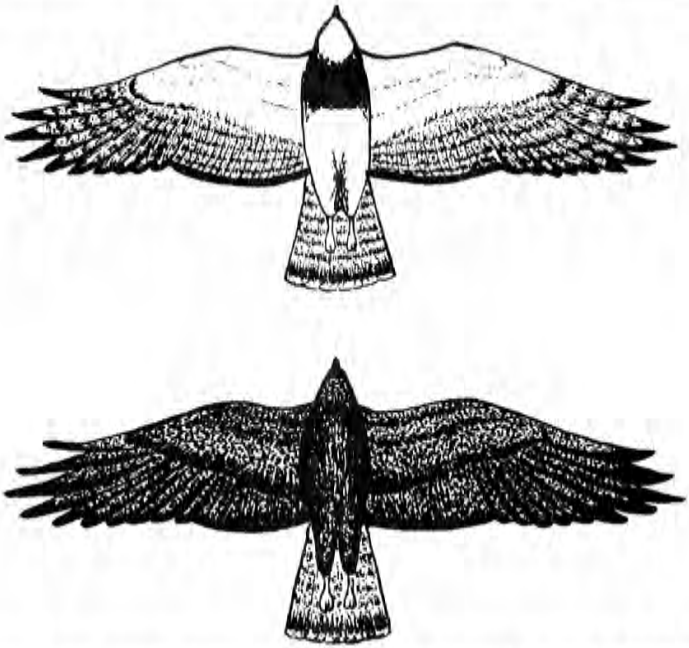

Figure 6: Adult light phase Swainson's Hawk *(top)* and adult dark phase Swainson's Hawk *(bottom)*. Drawings by Ron Ridout.

Irregular light speckling or splotching occurs on the head and underparts, most often the neck, chest, upper belly and flags. These birds vary from very dark with a few light speckles to many light splotches in the areas mentioned. In the lightest individuals of this phase, the underwing coverts have irregular streaks of black-brown on a paler background, grading to rufous mottling on a dark background in the darkest. They usually show a light forehead and superciliary stripe and the tail is the same as in the light phase.

Immature light phase birds (Figures 7 and 8), probably the commonest type seen in the east, show the two-toned underwing pattern—dark flight feathers with pale coverts. They have a pale area in the forehead, light superciliary stripe and whitish throat; some are extensively buffy on the head. Dark brown "whiskers" extend from the corners of the beak down the sides of the neck and widen to form the breast band. Up close, this can be seen to be mottled with large diamond-shaped marks and is variable in extent. The dark mottling extends down the sides in variable amounts and ends as fine bars on the flags and undertail coverts, again in variable amounts. The tail is similar to that of an adult light phase. The back and especially the upper wing coverts tend to be more mottled than those of adult birds. The edgings are often paler, accentuating this

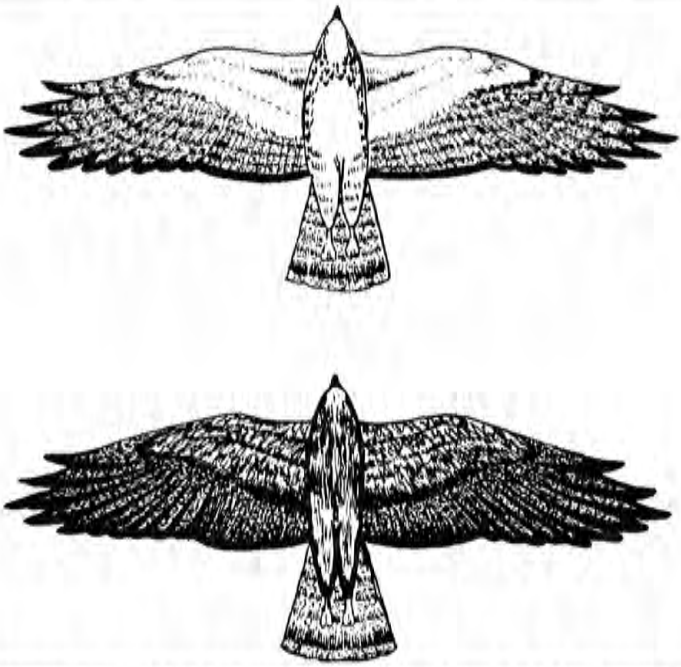

Figure 7: Immature light phase Swainson's Hawk *(top)* and immature dark phase Swainson's Hawk *(bottom)*. Drawings by Ron Ridout.

mottled effect.

The adult intermediate or "rufous" phase of Swainson's Hawk is like the light phase except that heavy rufous barring extends from the breast band down to the tail and includes the side and leg feathers. There are apparently gradations from light to intermediate to dark phases. I cannot distinguish intermediate from others in immature plumage when examining museum specimens but have noticed some gradations between light and dark phase birds. Perhaps this variability may in some cases actually be the "typical" plumage of an immature in intermediate phase. Since I have seen these intermediates only as museum specimens and do not know of any studies of them, I cannot say with certainty that they constitute a consistent colour phase, that they are the result of light x dark parentage or that there is a typical immature form.

I think the fact that 9 of 18 Ontario records refer to light phase adult Swainson's Hawks is the result of that age/colour phase being quite easy to identify while the others are not. A light phase adult will be more readily called as such by most birders but the less easily identified age/colour phases will often be put down as "unidentified species". Hopefully this situation will change as knowledge of the field marks becomes more widespread.

If you want to see a Swainson's

Hawk in Ontario, try the Rainy River/Lake-of-the-Woods area in spring and early summer, a spring hawk lookout in the south or, better still, one of the major lookouts in fall. I would recommend Hamilton, Hawk Cliff or Holiday Beach in mid-September when the Broad-winged Hawk flocks pass through. Scan the kettles for a larger buteo and examine it carefully . . . and remember that discovery favours the prepared mind.

Figure 8: Immature light phase Swainson's Hawk banded at Hawk Cliff, Port Stanley, Elgin Co., 13 September 1975. Photo by Gary Mulawka.

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Literature Cited

Atherton, L.A. and B.H. Atherton. 1980. Florida region. American Birds 34(2):152-155.

Atherton, L.A. and B.H. Atherton. 1981. Florida region. American Birds 35(2):172-176.

Atherton, L.A. and B.H. Atherton. 1982. Florida region. American Birds 36(2):168-171.

Atherton, L.A. and B.H. Atherton. 1983. Florida region. American Birds 37(2):170-173.

Atherton, L.A. and B.H. Atherton. 1984. Florida region. American Birds 38(2):192-195.

Beardslee, C.S. and H.D. Mitchell. 1965. Birds of the Niagara Frontier Region: An Annotated Checklist. Bulletin of the Buffalo Society of Natural Sciences: Volume 22. Buffalo, New York.

Beebe, R. 1933. Influence of the Great Lakes on the migration of birds. Wilson Bulletin 45(3): 118-121.

Bent, A.C. 1937. Life Histories of North American Birds of Prey: Part I. Smithsonian Institution. United States National Museum Bulletin 167. New York.

Bowles, J.H. and F.R. Decker. 1934. Swainson's Hawk in Washington state. Auk 51:446-450.

Boyle, W.J. Jr., R.O. Paxton and D.A. Cutler. 1982. Hudson-Delaware region. American Birds 36(2): 157-161.

Brewster, W. 1893. Some additional eastern records of Swainson's Hawk (*Buteo swainsoni*). Auk 10:82-83.

Brinker, D.F. and T.S. Erdman. 1985. Characteristics of autumn Red-tailed Hawk migration through Wisconsin. pp. 107-136 in Proceedings of Hawk Migration Conference IV.

Brown, L. and D. Amadon. 1968. Eagles, Hawks and Falcons of the World. Country Life Books, London.

Browning, M.R. 1974. Comments on the winter distribution of the Swainson's Hawk (*Buteo swainsoni*) in North America. American Birds 28:865-867.

Buckley, P.A., R.O. Paxton and D.A. Cutler. 1978. Hudson-Delaware region. American Birds 32(2): 182-189.

Bull, J. 1974. Birds of New York State. Department of Ornithology, Museum of Natural History/Doubleday. Garden City, New York.

Bull, J. and J. Farrand Jr. 1977. Audubon Society Field Guide to North American Birds: Eastern Region. Chanticleer Press, New York.

Clark, W.S. 1976. Status of the Swainson's Hawk in New Jersey. New Jersey Audubon 2(5):2-3.

Conway, R.A. 1979. Field Checklist of Rhode Island Birds. Bulletin Number 1. Rhode Island Ornithological Club.

David, N. 1980. Status and Distribution of Birds in Southern Quebec. Cahiers d'Ornithologique Victor-Gaboriault Numéro 4.

*Donohue, G.S.*1979a. South Central report. Newsletter of the Hawk Migration Association of North America 4(1):10-12.

*Donohue, G.S.*1979b. South Central report. Newsletter of the Hawk Migration Association of North America 4(2):23-28.

*Donohue, G.S.*1980. South Central report. Newsletter of the Hawk Migration Association of North America 5(1):7-10.

*Donohue, G.S.*1981. South Central report. Newsletter of the Hawk Migration Association of North America 6(2):18-20.

*Donohue, G.S.*1972. South Central report. Newsletter of the Hawk Migration Association of North America 7(1):14-17.

Duncan, B.W. 1983. Red-tailed Hawks banded at Hawk Cliff, Ontario: 1971-1982. Analysis of data. Ontario Bird Banding 16(2):20-29.

Dunkle, S.W. 1977. Swainson's Hawk on the Laramie Plains, Wyoming. Auk 94:65-71.

Dutcher, W. 1893. Swainson's Hawk in the east. Auk 10:83-84.

Edscorn, J.B. 1976. Florida region. American Birds 30(1):54-58.

*Gardner, K.A.*1971. Swainson's Hawk in Manitoba. Zoologia 12(2):22-25.

Gilmer, D.S. and R.E. Stewart. 1984. Swainson's Hawk nesting ecology in North Dakota. Condor 86:12-18.

Green, J.C. and R.B. Janssen. 1975. Minnesota Birds: Where, When and How Many. University of Minnesota Press, Minneapolis.

Hall, G.A. 1979. Appalachian region. American Birds 33(2): 176-178.

Hall, G.A. 1981. Appalachian region. American Birds 35(2): 181-184.

Hall, G.A. 1983. West Virginia Birds: Distribution and Ecology. Carnegie Museum of Natural History, Pittsburgh.

Hoffman, S. 1982. Southwest report. Newsletter of the Hawk Migration Association of North America 7(2):30-32.

Holt, J.B. Jr. and R. Frock Jr. 1980. Twenty years of raptor banding on the Kittatinny Ridge. Hawk Mountain News 54:8-32.

Houston, C.S. 1968. Recoveries of Swainson's Hawks banded in Saskatchewan. Blue Jay 26:86-87.

Houston, C.S. 1982. Wildlife notes. Western Sportsman 14(2):28-29.

James, R.D. 1983. Ontario Bird Records Committee report for 1982. Ontario Birds 1:7-15.

James, R.D. 1984. Ontario Bird Records Committee report for 1983. Ontario Birds 2:53-65.

Johnson, D.H. 1982. Raptors of Minnesota—Nesting distribution and population status. Loon 54(2):73-104.

Keir, J.R. and D. Wilde. 1976. Observations of Swainson's Hawks nesting in northeastern Illinois. Wilson Bulletin 88(4): 658-659.

*Kibbe, D.P.*1981. Niagara-Champlain report. American Birds 35(2):179-181.

Klabunde, W. 1980. Eastern Great Lakes report. Newsletter of the Hawk Migration Association of North America 5(1):12-14.

Klabunde, W. 1981. Eastern Great Lakes report. Newsletter of the Hawk Migration Association of North America 6(1):17-19.

Klabunde, W. 1983. Eastern Great Lakes report. Newsletter of the Hawk Migration Association of North America 8(1):16-17.

Leck, C.F. 1984. The Status and Distribution of New Jersey's Birds. Rutgers University Press, New Brunswick, New Jersey.

Legrand, H.E. Jr. 1981. Southern Atlantic coast region. American Birds 35(2):170-172.

Mueller, H.C. and D.D. Berger. 1959. The Swainson's Hawk in Wisconsin. Passenger Pigeon 21:142-144.

Munro, H.L. and D.A. Reid. 1982. Swainson's Hawk nesting near Winnipeg. Canadian Field-Naturalist 96(2):206-208.

Newton, I. 1979. Population Ecology of Raptors. Buteo Books. Vermillion, South Dakota.

Paxton, R.O., P.A. Buckley and D.A. Cutler. 1976. Hudson-Delaware region. American Birds 30(1):39-46.

Paxton, R.O., W.J. Boyle Jr. and D.A. Cutler. 1981. Hudson-Delaware region. American Birds 35(2): 162-166.

Paxton, R.O., W.J. Boyle Jr. and D.A. Cutler. 1983. Hudson-Delaware region. American Birds 37(2): 160-164.

Pittman, H.H. 1943. Swainson's Hawk. Blue Jay 2:27-28.

Ridgely, R.S. 1976. A Guide to the Birds of Panama. Princeton University Press. Princeton, New Jersey.

Salt, W.R. and J.R. Salt. 1976. The Birds of Alberta. Hurtig Publishers. Edmonton, Alberta.

Scott, F.R. 1980. Middle Atlantic coast region. American Birds 34(2):147-149.

Sexton, C. 1983a. South Central report. Newsletter of the Hawk Migration Association of North America 8(1):11-12.

Sexton, C. 1983b. South Central report. Newsletter of the Hawk Migration Association of North America 8(2):32-35.

Sexton, C. 1984. South Central report. Newsletter of the Hawk Migration Association of North America 9(1):24-26.

Sexton, C. 1985. South Central report. Newsletter of the Hawk Migration Association of North America 10(2):31-32.

Sharp, C.S. 1902. Nesting of Swainson's Hawk. Condor 4:116-118.

Smith, N.G. 1985. Some uncertain aspects of migration by Swainson's Hawks and Turkey Vultures. Proceedings of Hawk Migration Conference IV.

Sprunt, A. Jr. 1952. Florida Bird Life. Coward-McCann Inc., New York.

Sprunt, A. Jr. and E.B. Chamberlain. 1949. South Carolina Bird Life. University of South Carolina Press. Columbia, South Carolina.

Surber, T. 1898. Two species new to the list of birds found in West Virginia. Auk 15:61.

Thompson, E.E. 1891. Birds of Manitoba. Smithsonian Institution Press. Washington.

Thompson, T. 1983. Birding in Ohio. Indiana University Press.

Todd, W.E.C. 1940. Birds of Western Pennsylvania. University of Pittsburgh Press. Pittsburgh.

Vickery, P.D. 1978. Annotated Checklist of Maine Birds. Maine Audubon Society. Falmouth.

Vickery, P.D. 1980. Northeastern Maritime region. American Birds 34(2):139-141.

Wood, M. 1979. Birds of Pennsylvania. Pennsylvania State University Press. University Park.

Wood, W.A. 1943. The Birds of Michigan. Miscellaneous Publications. Museum of Zoology. University of Michigan #75. Ann Arbor, Michigan.

Wormington, A. 1985. Ontario Bird Records Committee report for 1984. Ontario Birds. 3:2-17.

Wormington, A. 1986. Ontario Bird Records Committee report for 1985. Ontario Birds 4:3-18.