

RESULTS OF THE 2007 INTERNATIONAL BUTTERFLY COUNTS IN SASKATCHEWAN

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Nine International Butterfly Counts (1JC) were conducted in Saskatchewan in 2007, one more than in 2006.² Counts in 2007 were conducted at Bjorkdale, Duck Mountain Provincial Park, Fort Qu'Appelle, Last Mountain Lake National Wildlife Area, Nisbet Forest, Pasquia Hills, Preeceville, Regina and Saskatoon. Duck Mountain and Nisbet were not done in 2006 but had been done in previous years, while the Last Mountain Lake count was new. Counts at Eastend and Waskesiu River were done in 2006 but not in 2007. Count statistics are presented in Table 1, and count results in Table 2.

Sixty species were recorded in 2007, compared to 62 in 2006 and 57 in 2005.^{1,2} The total number of butterflies counted was 4007, compared with 3669 in 2006 and 6972 in 2005 (of which 5389 were Painted Ladies). Butterflies per party-hour is used as a measure to relate butterfly numbers to observer effort to provide a comparable index of abundance over years. Butterflies per party-hour was 48 for the nine counts in 2007, the same as for the eight counts in 2006. Count conditions in 2007 were consistent with those in previous years, ranging from a low temperature of 16° at Regina to a high of 31° at Preeceville. Wind speeds exceeding 30 km/hr at Duck Mountain, Fort Qu'Appelle and Preeceville may have

had some influence on the number of open field butterflies that were seen.

Species totals for each count ranged from 16 at Duck Mountain to 36 at Saskatoon and averaged 24 for the nine counts. This was up from 20 in 2006 and 18 in 2005. Twenty or more species is very respectable for a single-day butterfly count, and over 30 is exceptional. All but two counts exceeded 20 species in 2007 as species diversity improved with the generally adequate levels of moisture and warm mid-summer temperatures.

Numbers of individuals ranged from 153 at Last Mountain Lake to 1013 at Bjorkdale. The number of individuals per party-hour ranged from 22 at Last Mountain Lake to 127 at Bjorkdale compared with a range of 19 at Fort Qu'Appelle to 164 at Eastend in 2006.

The number of observers ranged from one at Duck Mountain, Bjorkdale and Pasquia Hills to 13 at Saskatoon and 10 at Fort Qu'Appelle. A total of 96 party-hours was logged, ranging from seven at Duck Mountain, Ft. Qu'Appelle, Preeceville and Last Mountain Lake to 32.5 at Saskatoon.

The highest combined count of an individual species was 1015 Clouded Sulphurs. Unusually high species counts at individual locations were 115 Canadian Tiger Swallowtails at Duck

Table 1. 1JC statistics - Saskatchewan 2007

1JC name	yrs. held	1JC date	no. of spp	no. of b'flies	b'flies/ph	no. of obs	no. of ph	ph on foot	km on foot	km by car	time start - end	% sun* am	% sun pm	temp. deg. C	wind km/hr
DMP	2	9 JN	16	201	29	1	7		8	0	0830-1600	100	76-100	18-22	16-32
Reg	12	21 JN	24	291	27	9	10.75	10.75	14.5	0	0830-1515	90	90	16-28	30
FtQ	17	23 JN	21	165	23	10	7		9.6		1000-1800	51-75	76-100	17-25	32-48
LML	1	5 JY	22	153	22	3	7	7	6.4	0	0945-1700	100	100	24-27	6.4-18
Sto	13	7 JY	36	749	23	13	32.5		24		0930-1730	76-100	76-100	21-24	16-24
Bjo	7	13 JY	26	1013	127	1	8	3	5	33	0900-1700	100	95	21-28	0-15
Pre	6	14 JY	21	359	51	4	7	7	6.4	0	0900-1600	26-50	51-75	24-31	24-40
PaH	7	18 JY	33	717	84	1	8.5	1	2	22	0830-1700	90	75	22-28	0-15
NiF	12	27 JY	18	359	44	3	8	8	9	0	0950-1550	100	85	17-25	11-19
Totals		9 1JCs	60	4007	48	36	96		85					16-31	0-48

Abbreviations: spp. = species, ph = party hours, b'flies = butterflies, obs = observers, DMP = Duck Mt. Prov. Park, Reg = Regina, FtQ = Fort Qu'Appelle, LML = Last Mountain Lake National Wildlife Area, Sto = Saskatoon, Bjo = Bjorkdale, PaH = Pasqua Hills, Pre = Preeceville, NiF = Nisbet Forest

* The format of the % sun column has changed to accommodate new North American Butterfly Association categories used by some compilers. The categories are 11%-25%, 26%-50%, 51%-75%, 76%-100%.

**The "total" in column 6 is the average for all counts, not the total; that in column 7 is the total number of people who participated in 1JC counts (some participated in more than one count), those in columns 14 & 15 show extremes in 2007.

Table 2. 1JC results- Saskatchewan 2007

SPECIES NAME	DMP 9 JN	Reg 21 JN	FtQ 23 JN	LML 5 JY	Sto 7 JY	Bjo 13 JY	Pre 14 JY	PaH 18 JY	NiF 27 JY	totals
Silver-spotted Skipper		5			3					8
Northern Cloudywing	1							1		2
Dreamy Duskywing	4									4
Juvenal's Duskywing										
Afranius Duskywing										
Persius Duskywing										
Grizzled Skipper										
C. Checkered Skipper			1		1					2
Common Sootywing										
<i>Unident. Skipper</i>				10	1				1	12
Arctic Skipper	8		2							10
Least Skipper										
Garita Skipperling		10	27	2	5		11			55
European Skipper										
Uncas Skipper										
C. Branded Skipper										
Plains Skipper										
Dakota Skipper										
Nevada Skipper										
Peck's Skipper					4			2		6
Draco Skipper										
Tawny-edged Skipper				6						6
Long Dash Skipper		7	4	1	4	5		12		33
Rhesus Skipper										
Delaware Skipper										
Woodland Skipper										
Hobomok Skipper	4	10	1							15
Dun Skipper					2	12	1	7	1	23
Dusted Skipper										
Oslar's Roadside Skipper										
Com. Roadside Skipper			1		1					2
Kahli Swallowtail				1						1
<i>Old World Sw'tail (Dods)</i>										
Old World Sw'tail (Huds)								3		3
Anise Swallowtail										
<i>Anise/Old World Sw'tail</i>										
Can. Tiger Swallowtail	115	17	9		3	4	4	16		168
<i>Unident. White</i>				7					1	8
Western White		1			6					7
Margined White										
Mustard White						45		1		46
Cabbage White		7		3	20	21	15		9	75

SPECIES NAME	DMP	Reg	FtQ	LML	Sto	Bjo	Pre	PaH	NiF	totals
Large Marble Olympia Marble <i>Unident. Sulphur</i> Clouded Sulphur	1	8	1	10 10	29 402	405	105	67	2 16	41 1015
Orange Sulphur Q. Alexandra's Sulphur Christina Sulphur				2	2 3			1	1	5 6
Giant Sulphur Pink-edged Sulphur Harvester						75		31		106
<i>Unident. Copper</i> Gray Copper Bronze Copper				4						4
Ruddy Copper Dorcas Copper Purplish Copper		8		10	1			12	3	15 19
Acadian Hairstreak Coral Hairstreak Edwards' Hairstreak							1		2	3
Branded Hairstreak Striped Hairstreak <i>Unident. Elfin</i>										
Brown Elfin Hoary Elfin Eastern Pine Elfin										
Western Pine Elfin Gray Hairstreak <i>Unident. Blue</i>				7	3		5			15
West. Tailed Blue Spring Azure Summer Azure	11 5	1	10		6	8	3	13		52 5
Rocky Mt. Dotted Blue Arrowhead Blue Silvery Blue	21	30	11	3	18	130	1	43		257
Northern Blue Melissa Blue Greenish Blue	4	6 8	3 3	7 7	3 2	10 2	1 9	7		17 20 35
Boisduval's Blue Lupine (Acmon) Blue Prairie Arctic Blue										
<i>Unident. large Fritillary</i> Variegated Fritillary Great Spangled Frit.		3		1	47 4 11	2 2	8 8	3	30 1 15	86 10 39

SPECIES NAME	DMP	Reg	FtQ	LML	Sto	Bjo	Pre	PaH	NiF	totals
Aphrodite Fritillary Edwards' Fritillary Zerene Fritillary										
Callippe Fritillary Atlantis Fritillary Northwestern Fritillary			2 11		1 3	11 14	2	256 23	1 13	3 268 66
Mormon Fritillary <i>Unident. small Fritillary</i> Bog Fritillary					2				23	25
Silver-bordered Fritillary Meadow Fritillary Frigga Fritillary				1	1 1			3	2 12	6 14
Freija Fritillary Arctic Fritillary Gorgone Checkerspot								2	35	37
Sagebrush Checkerspot <i>Unident. Crescent</i> Pearl Crescent				3	12 4		1		3	19 6
Northern Crescent Tawny Crescent Variable Checkerspot	1	1	9 3	7	9 1	125 7	66	47 6		265 17
<i>Unident. Comma</i> Eastern Comma Satyr Comma							1		4	5
Green Comma Hoary Comma Gray Comma	2 1							18 1		20 2
Compton Tortoiseshell Mourning Cloak Milbert's Tortoiseshell Painted Lady				1 2	4 2	1 27	1	4 1 67	2	4 9 104 3
Red Admiral White Admiral Viceroy	11	11 5	10 31	5 8 2	11 96 1	22 52 2	1 21	1 54 7	5	72 272 12
Northern Pearly-Eye Eyed Brown Little Wood-Satyr						12	11	3		26
Common Ringlet <i>Unident. Wood-Nymph</i> Com. Wood-Nymph		110	11	29	10 6	3 15		1		164 255
Small Wood-Nymph <i>Unident. Alpine</i> Taiga Alpine										

SPECIES NAME	DMP	Reg	FtQ	LML	Sto	Bjo	Pre	PaH	NiF	totals
Red-disked Alpine Common Alpine Ridings' Satyr	9	1								10
<i>Unident. Arctic</i> Macoun's Arctic Uhler's Arctic		1						1		1 1
Jutta Arctic Monarch <i>Unident. butterfly</i>		33	13	4	1		21		1	73
Total # of species	16	24	21	22	36	26	21	33	18	60
Total # of butterflies	201	315	186	175	785	1039	380	750	359	4007
Count Location	DMP	Reg	FtQ	LML	Sto	Bjo	Pre	PaH	NiF	totals

*DMP = Duck Mt. Prov. Park, Reg = Regina, FtQ = Fort Qu'Appelle,
LML = Last Mt. Lake National Wildlife Area, Sto = Saskatoon, Bjo = Bjorkdale,
Pre = Preeceville, PaH = Pasqua Hills, NiF = Nisbet Forest



Figure 1. Mourning Cloak butterfly laying eggs on a Balsam Poplar, 18 July 2007, Pasquia Hills
John Koziol

Mountain, 45 Mustard Whites at Bjorkdale, 75 Pink-edged Sulphurs at Bjorkdale, 12 Dorcas Coppers at Pasquia Hills, 130 Silvery Blues at Bjorkdale, 256 Atlantis Fritillary at Pasquia Hills, 125 Northern Crescents at Bjorkdale, 18 Green Commas at Pasquia Hills, 67 Milbert's Tortoiseshells at Pasquia Hills, 96 White Admirals at Saskatoon, and 33 Monarchs at Regina and 21 at Preeceville.

As in 2006, virtually all of the common species that might be expected considering the dates and locations of the nine counts were found in 2007. The most conspicuously absent species was Aphrodite Fritillary. The more common transient species also were all represented in at least one count: Common Checkered Skipper, present on two counts (total 2 individuals); Variegated Fritillary on 4 counts (total 10); Painted Lady on one count (total 3); Red Admiral on 8 counts (total 72); and Monarch on 6 counts (total 73). The only new species for the Saskatchewan 1JC counts was a Kahli Swallowtail at Last Mountain Lake.

Table 2 shows only the adult species that were seen on the counts.

Both Monarchs and Mourning Cloaks were found in immature stages as well. One Monarch larva was found feeding on milkweed on the Nisbet Forest count. No adults were seen on that count. On the Pasquia Hills count, John Kozial observed a worn, adult Mourning Cloak depositing about a dozen eggs in a partial ring on a small Balsam Poplar (*Populus balsamifera*) sapling at 1:10 p.m. (Figure 1). He also came across a total of 122 larvae on four small trees (all 120 cm tall or less): 29 larvae were on two Aspen Poplars (*Populus tremuloides*) (Figure 2), 85 were on a Pussy Willow (*Salix discolor*) and 8 on a Balsam Poplar.

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1. GOLLOP, M. and A. LEIGHTON. 2005. Results of the 2005 International Butterfly Counts in Saskatchewan. *Blue Jay* 63:193-199

2. GOLLOP, M. and A. LEIGHTON. 2007. Results of the 2006 International Butterfly Counts in Saskatchewan. *Blue Jay* 65:89-95



Figure 2. Mourning Cloak larvae on an Aspen Poplar on 18 July 2007, Pasquia Hills
John Kozial