
INSECTS

RESULTS OF THE 2006 INTERNATIONAL BUTTERFLY COUNTS IN SASKATCHEWAN

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Figure 1. Cabbage White butterflies mudpuddling near Bjorkdale, 14 August 2006.
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Eight international butterfly counts, also called First of July Counts or 1JC, were held in Saskatchewan in 2006. This was the same number as in 2005, although only five of these counts were held in both years.¹ Counts in 2006 were conducted at Bjorkdale, Eastend, Fort Qu'Appelle, Pasquia Hills, Preeceville, Regina, Saskatoon and Waskesiu River. The Eastend, Bjorkdale and Pasquia Hills counts were not done in 2005.

In 2006, 62 species were recorded, compared to 57 in 2005.¹ The total

number of butterflies counted in 2006 was 3669 compared to 6972 in 2005 (of which 5389 were Painted Ladies). Butterflies per party hour in 2006 was 48 compared to 86 in 2005, although if Painted Ladies were removed from the 2005 count, the butterflies per party-hour would have been only 27. (The number of butterflies counted per party-hour is a measure that relates butterfly numbers to observer effort, to provide a comparable index of abundance over years.)

Count conditions were consistent

Table 1. 1JC statistics - Saskatchewan 2006

1JC name	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	% sun am:pm	temp. deg.C	wind km/hr
WaR	Jun 4	15	175	21	2	8.2	8.2	8.6	0	0930-1615	20:75	21	light
Reg	Jun 22	18	350	28	6	12.5	9.5	13	3	0900-1500	100:95	18-22	3-15
FtQ	Jun 24	25	115	19	4	6	5	8	45	1030-1600	100:50	23	8
Bjo	Jul 3	21	455	57	1	8	4	5	35	0900-1700	100:80	19-22	10-20
PaH	Jul 6	23	374	47	1	8	1	2	20	0900-1700	100:100	22-31	5-15
Sto	Jul 8	28	429	21	11	20	24	11.2	45	0900-1700	90:90	19-24	22-35
Pre	Jul 22	18	619	88	6	7	4	6	20	0830-1530	90:75	20-32	0-40
Eas	Aug 10	13	1152	164	2	7	7	23	0	0930-1510	100:100	20-26	10
totals	8 1JCs	62	3669	48	27	77	63	77	169			18-32*	0-40*

Abbreviations: WaR = Waskesiu River, Reg = Regina, FtQ = Fort Qu'Appelle, Bjo = Bjorkdale, PaH = Pasquia Hills, Sto = Saskatoon, Pre = Preeceville, Eas = Eastend, spp. = species, * extremes for the year, ph = party hours.

among counts in 2006, with temperatures ranging from a low of 18°C at Regina to a high of 32°C at Preeceville (Table 1). Wind speeds increased to 35 and 40 km/hr on the Saskatoon and Preeceville counts, respectively, and may have influenced the number of open field butterflies seen on those counts. The number of observers was about the same in both years, and in 2006 ranged from one on the Bjorkdale and Pasquia Hills counts to 11 at Saskatoon. A total of 77 party-hours were logged, ranging from six at Fort Qu'Appelle to 20 at Saskatoon.

Species totals on the eight counts ranged from 13 at Eastend to 28 at Regina, and averaged 20 per count for the eight counts. This was up from an average of 18 per count in 2005. Species counts remained down from earlier years, despite the second year of moisture for most of the prairies and in an outstanding flower bloom in many areas. Too much moisture in the northeast of the province, however, reduced numbers on the Bjorkdale and Pasquia Hills counts. In contrast, the southwest had very dry conditions for much of the season, and at Eastend, only 13 species were found, 12 species fewer than the lowest number found in the six previous comparable counts.

Numbers of individual butterflies per count ranged from 115 at Fort Qu'Appelle to 1152 at Eastend.

Cabbage Whites accounted for 837 of the Eastend total (Table 2). As was the case for Painted Ladies in 2005, the high number of Cabbage Whites in 2006 demonstrates how a single species can inflate figures. (See Figure 1.) The number of individual butterflies per party-hour ranged from 19 at Fort Qu'Appelle to 164 at Eastend.

The species with the highest number of individuals seen were Cabbage White at 1502, and Clouded Sulphur at 449. The number of Cabbage Whites was exceptionally high for Saskatchewan 1JCs. In counts held in the past 10 years, numbers of individuals of this species averaged 336 per year; the highest previous total was 456, recorded in 2003.^{2,3} Cabbage Whites appeared in unusually high numbers early in the season in 2006, at least in south-central parts of the province, as indicated by observations in the Allan Hills by the second author: seven Cabbage Whites on May 7, and nine on May 14. Good conditions for survival and reproduction must have existed in many parts of the province in 2006, as indicated by the build up of numbers seen in the 1JCs (Table 2).

Although Clouded Sulphur numbers (449) were high compared to 2005 numbers (65), they were lower than the 10-year average of 563. Only two years in the past 10 have had lower numbers: 2000 with 295 and 2001 with 339. The

Table 2. 1JC results - Saskatchewan 2006

SPECIES NAME	WaR* 4 JN	Reg 22 JN	FtQ 24 JN	Bjo 3 JY	PaH 6 JY	Sto 8 JY	Pre 22 JY	Eas 10 AU	Totals
Silver-spotted Skipper		1				1			2
Northern Cloudywing	1								1
Dreamy Duskywing	14								14
Juvenal's Duskywing									
Afranius Duskywing									
Persius Duskywing	1								1
Grizzled Skipper									
C. Checkered Skipper			2						2
Common Sootywing									
<i>Unident. Skipper</i>		6						74	80
Arctic Skipper	13		1						14
Least Skipper									
Garita Skipperling		36	16			1			53
European Skipper		18							18
Uncas Skipper									
C. Branded Skipper									
Plains Skipper								27	27
Dakota Skipper									
Nevada Skipper									
Peck's Skipper									
Draco Skipper									
Tawny-edged Skipper			1						1
Long Dash Skipper		9	9	2	13	2			35
Rhesus Skipper									
Delaware Skipper									
Woodland Skipper								10	10
Hobomok Skipper									
Dun Skipper				7	3	1	1		12
Dusted Skipper									
Oslar's Roadside Skipper									
Com. Roadside Skipper		3							3
Old World Sw'tail (Dods)								2	2
Old World Sw'tail (Huds)					1				1
Anise Swallowtail									
<i>Anise/ Old World Sw'tail</i>									
Can. Tiger Swallowtail	36	1	2	3	3				45
<i>Unident. White</i>									
Western White		10	3			3			16
Margined White									
Mustard White				23	24				47
Cabbage White		20	2	142	18	206	277	837	1502
Large Marble									

	WaR	Reg	FtQ	Bjo	PaH	Sto	Pre	Eas	totals
Olympia Marble									
<i>Unident. Sulphur</i>									
Clouded Sulphur	3	24	1	14	4	97	172	134	449
Orange Sulphur									
Q. Alexandra's Sulphur									
Christina Sulphur						4			4
Giant Sulphur									
Pink-edged Sulphur				23	17				40
Harvester									
<i>Unident. Copper</i>									
Gray Copper									
Bronze Copper							1		1
Ruddy Copper									
Dorcas Copper					2				2
Purplish Copper		18					2		20
Acadian Hairstreak									
Coral Hairstreak			1						1
Edwards' Hairstreak									
Banded Hairstreak									
Striped Hairstreak						1			1
<i>Unident. Elfin</i>									
Brown Elfin									
Hoary Elfin									
Eastern Pine Elfin									
Western Pine Elfin									
Gray Hairstreak									
<i>Unident. Blue</i>		18							18
West. Tailed Blue	40	1	5	18	38	1			103
Spring Azure	7								7
Summer Azure									
Rocky Mt. Dotted Blue									
Arrowhead Blue									
Silvery Blue	48	40	18	55	6				167
Northern Blue			1	3	12				16
Melissa Blue		2	7			1		14	24
Greenish Blue	1	11	1		4	2			19
Boisduval's Blue									
Lupine (Acmon) Blue									
Prairie Arctic Blue									
<i>Unident. large Fritillary</i>						2	27	38	67
Variegated Fritillary							2		2
Great Spangled Frit.						11	4		15

		WaR	Reg	FtQ	Bjo	PaH	Sto	Pre	Eas	totals
Aphrodite	Fritillary							4	1	5
Edwards'	Fritillary									
Zerene	Fritillary									
Callippe	Fritillary			10	1		1		1	13
Atlantis	Fritillary				10	68				78
Northwestern	Fritillary			2	6	10	8	3	3	32
Mormon	Fritillary								1	1
<i>Unident. small</i>	<i>Fritillary</i>							2		2
Bog	Fritillary				1					1
Silver-bordered	Fritillary				3		1			4
Meadow	Fritillary						5	12		17
Frigga	Fritillary	3								3
Freija	Fritillary	3								3
Arctic	Fritillary									
Gorgone	Checkerspot			1						1
Sagebrush	Checkerspot									
<i>Unident. Crescent</i>										
Pearl	Crescent			1			3		4	8
Northern	Crescent	1		6	26	19	5	1		58
Tawny	Crescent			2			1	2		5
Variable	Checkerspot									
<i>Unident. Comma</i>										
Eastern	Comma									
Satyr	Comma	1				1	3			5
Green	Comma					1				1
Hoary	Comma									
Gray	Comma				1	1		4		6
Compton	Tortoiseshell						1			1
Mourning	Cloak						2			2
Milbert's	Tortoiseshell		4	1	32	96	7			140
Painted	Lady									
Red	Admiral									
White	Admiral		11	10	77	28	28	6		160
Viceroy						4	1			5
Northern	Pearly-Eye				2					2
Eyed	Brown									
Little	Wood-Satyr									
Common	Ringlet		110	9	6	1	8			134
<i>Unident. Wood-Nymph</i>										
Com. Wood-Nymph							22	91	5	118
Small Wood-Nymph										
<i>Unident. Alpine</i>										
Taiga	Alpine									

	WaR	Reg	FtQ	Bjo	PaH	Sto	Pre	Eas	totals
Red-disked Alpine Common Alpine Ridings' Satyr	3								3
<i>Unident. Arctic</i> Macoun's Arctic Uhler's Arctic									
Jutta Arctic Monarch		7	3				8	1	19
<i>Unident. butterfly</i>									
Total number of species	15	18	25	21	23	28	16	13	62
Total number of butterflies Count location	175 WaR	350 Reg	115 FtQ	455 Bjo	374 PaH	429 Sto	619 Pre	1152 Eas	3669 totals

*WaR = Waskesiu River, Reg = Regina, FtQ =Fort Qu'Appelle, Bjo = Bjorkdale, PaH = Pasquia Hills, Sto = Saskatoon, Pre = Preeceville, Eas = Eastend.



Figure 2. White Admiral, Nisbet Forest, 14 June 2006

Juhachi Asai

highest were 1140 (in 2003) and 957 (in 1999).^{2,3}

Unusually high species counts at individual locations included 23 Pink-edged Sulphurs and 77 White Admirals (Figure 2) at Bjorkdale, 12 Northern

Blues, 68 Atlantis Fritillaries and 96 Milbert's Tortoiseshells at Pasquia Hills and 8 Monarchs at Preeceville.

Virtually all of the common species that might be expected, considering the dates and locations of the eight counts,



Figure 3. Monarch with damaged wing, Nisbet Forest, 10 August 2006

Juhachi Asai

were found in 2006. Painted Ladies, the species that dominated counts in 2005 and accounted for 77% of all butterflies seen, were absent from the 2006 counts. Red Admirals, another species that routinely fluctuates dramatically in numbers, also were not seen this year.

The only provincially rare species counted in 2006 was European Skipper: 18 were seen at Regina, where they have recently become established and apparently are increasing. Northern Blues, an unusual butterfly on 1JCs, were reported from three counts, including Fort Qu'Appelle (see photograph on back cover).

The Nisbet Forest count, usually held at the end of July or early August, was initiated on August 10 this year but was canceled due to heavy cloud cover and rain in the morning. On the first leg of the survey, however, a Monarch was

found on the ground in a patch of Low Milkweed (*Asclepias ovalifolia*) in the forest. This individual was unable to fly, due to a malformed front wing, so it was assumed to have emerged at the site (Figure 3). In early afternoon, when the sun began to shine, four additional Monarchs were seen at the milkweed patch. All were in fresh condition and, after sitting briefly on the spruce trees at the site, flew away. No chrysalids were located but it appeared that these individuals had emerged earlier that day. A sixth Monarch was found that morning lying dead on a path.

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

2. LEIGHTON, A. 2000-2003. Saskatchewan Butterflies 2000, 2001, 2002, 2003. Annual reports published privately.

3. LEIGHTON, A. and B. GOLLOP, 1998-1999. Saskatchewan Butterflies 1998, 1999. Annual reports published privately.

③ Jun 18 '98

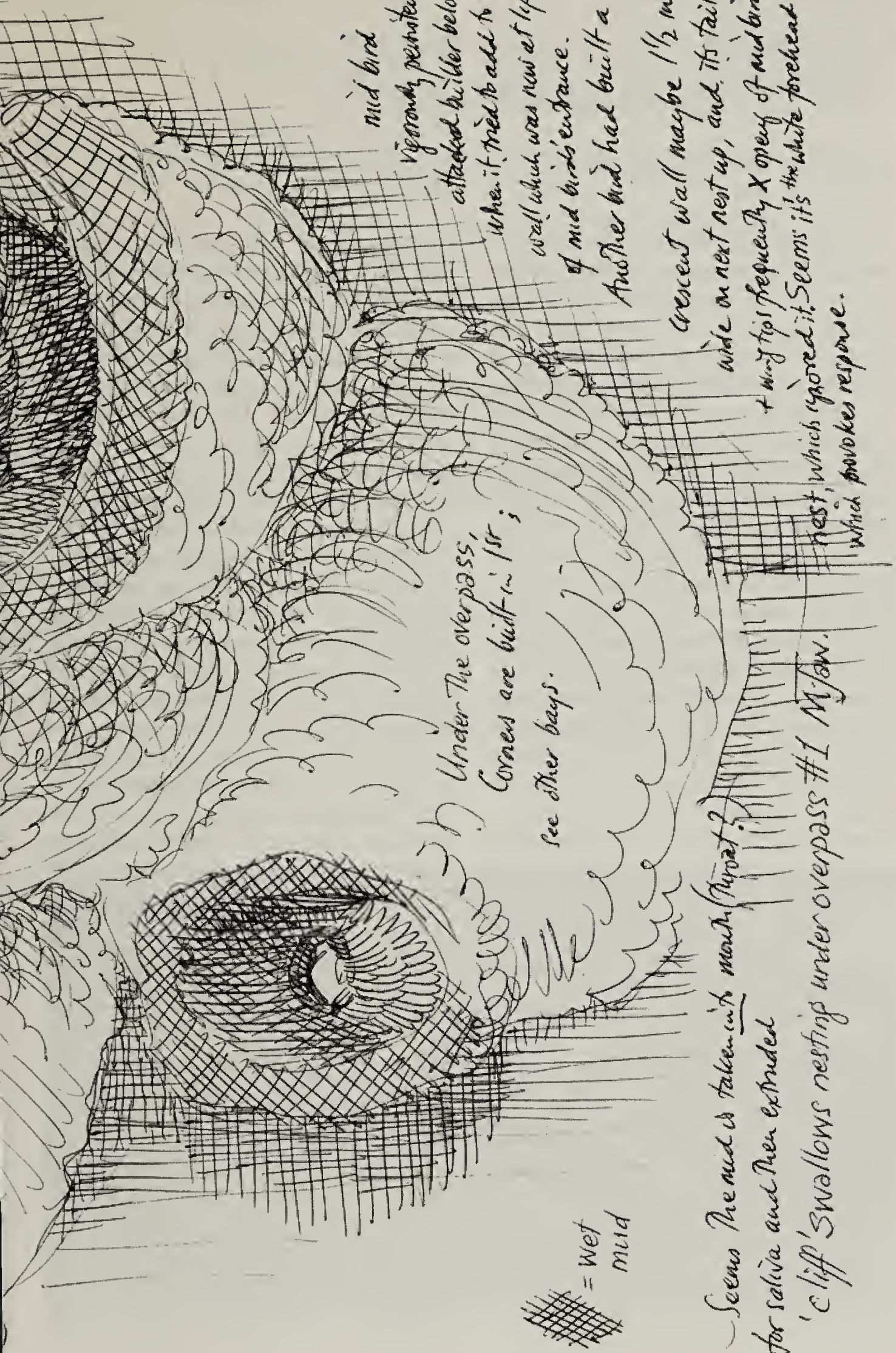
plop! This wall fell (most of it) while I there, leaving a
dk crescent which bird pecked away at.

Too much wet moss on? Or perhaps dry, and of (dry)
leaky nest
too quickly --
sucking moisture
out of it.



this bird
+ p. never fly's in
+ out (as nest ignored
builder or their wall,
pub. because out of sight of
holes + not close enough)

Paul Geraghty ©



mud bird
 vigorously penetrated
 attacked builder below
 when it tried to add to its
 wall which was now at top
 of mud bird's entrance.
 Another bird had built a

crescent wall maybe 1 1/2 ins
 wide on next nest up, and its tail
 + wing tips frequently X open of mud bird's
 nest, which ignored it. Seems its ^{the} white forehead
 which provokes response.

Under the overpass,
 Corners are built in 1st;
 see other bays.

= wet
 mud

Seems the mud is taken in to mouth (throat?)
 for saliva and then extruded
 'cliff' Swallows nesting under overpass #1 M.Jaw.