

**Targeted Butterfly and Skipper Inventory of
Selected Loess Hills Prairies 2013**

Prepared for Ann and Scott Swengel

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Abstract

*This report presents the findings of a limited inventory of butterflies and skippers at ten Loess Hills prairie sites in Iowa. The principal researcher completed four days of field surveys of these sites during normal flight times for targeted species – *Hesperia leonardus leonardus* and *Hesperia leonardus pawnee*. Those surveys recorded a total of 615 butterflies and skippers representing 31 species. Of the targeted species, five *H. leonardus leonardus* were found.*

Keywords: Lepidoptera, Loess Hills, *Hesperia leonardus leonardus*, *Hesperia leonardus pawnee*.

Introduction

Ten sites in the Loess Hills of western Iowa, including four State Preserves, were chosen as search sites for two target species (*Hesperia l. leonardus* and *Hesperia l. pawnee*). Of these ten sites, seven have previous records for the target species. In the discussion below, I will use *Hesperia leonardus* to refer to both *leonardus* and *pawnee* since our records are sometimes ambivalent regarding which was seen. For practical purposes, the former is found in the southwestern Loess Hills counties while the latter is found in the northwestern Loess Hills counties. According to *The Butterflies of Iowa*, “These two subspecies completely intergrade in a genetic cline within a 60-km. band extending over Monona, Harrison, and Pottawattamie counties in the Loess Hills (Spomer et al. 1993).”

Attached with this report is a compact disk containing digital images of all the sites I visited. A review of these images should give the reader a better comprehension of the nature of the sites than that provided by the brief descriptions in the following paragraphs.

The 1247-acre Waubonsie State Park in Fremont County (extreme southwest corner of Iowa) has very few acres of native prairie (perhaps less than 20), some of which are small fractions of an acre situated adjacent to a wooded trail that traces much of a ridge. The site has a number of *H. leonardus* records, including these:

- Sept. 2, 1989 – T. Orwig
- Sept. 1, 1991 – believed to be T. Orwig
- Sept. 7, 2003 – F. Olsen
- Sept. 12, 2005 – F. Olsen (2)
- Sept. 14, 2006 – F. Olsen (8)

Vincent Bluff State Preserve is a recently acquired 31-acre native prairie situated in the southern portion of Council Bluffs in Pottawattamie County. It consists of a ridge top bordering the north and east sides of the site. To my knowledge, no butterfly/skipper inventory has been conducted at this site – but it should be. Although we have no records of *H. leonardus* at this site, the habitat is appropriate for this species. I regard this site as high quality, but noted a great deal of brome grass at the site.

The 732-acre Hitchcock Nature Area in Pottawattamie County consists of rolling hills, most of which is wooded. The very small amount of high-quality native prairie, primarily along Badger

Ridge trail (and the location of all *H. leonardus* records), is regularly managed with fire and removal of invasive species, particularly cedars. We have these records from the site:

Sept. 2, 1989 – T. Orwig
Sept. 9, 1989 – T. Orwig
Sept. 9, 1990 – T. Orwig
Aug. 31, 1991 – T. Orwig
Sept. 12, 2005 – F. Olsen (5)
Sept. 12, 2006 – F. Olsen (3)

The 165-acre Gleason-Hubel Wildlife Area in Harrison County consists of rolling hills with many woodlands and a good number of acres of medium to high-quality prairie. No prior records of the target species exist for this site.

Of the 330 acres within Sylvan Runkel State Preserve in Monona County, about 100 are native prairie, including ridge tops and hillsides. I regard the habitat as from medium to high quality. We have no prior records for *H. leonardus* from the site, though the habitat appears suitable for a population; nearby sites have records. A DNR employee at the site told me the Preserve had been burned in the spring of this year. The site has records for pasqueflower, prairie moonwort fern, downy painted cup, yucca, and locoweed (Herzberg and Pearson, 2001).

The Loess Hills Wildlife Management Area in Monona County is another site with rolling hills of medium to high quality prairie and woodlands. The site has 2,742 acres, most of which are wooded. Previous records for *H. leonardus* include the following:

Aug. 21, 1991 – T. Orwig
Aug. 30, 1991 – T. Orwig
Aug. 31, 1991 – T. Orwig

My favorite site of those I visited is Turin Loess Hills State Preserve, a 220-acre, mostly wooded area with a very steep, very high western-facing face. The ridge line shrinks to as little as one-meter in width, with a 70% drop on the western side. It pays to keep your wits about you when walking the precipitous ridge top. But you're rewarded with a spectacular view of the pancake-flat landscape stretching for miles westward. This site in Monona County has an interesting variety of flora, including yucca, snow-on-the-mountain, rough blazing star, skeleton weed, downy painted cup, prairie moonwort, scurf-pea, and leadplant. I have recorded our target species here once before:

Aug. 24, 2008 – F. Olsen (3)

The 151-acre Sioux City Prairie Preserve lies on the north side of Sioux City in Woodbury County. Nearly the entire site is medium to high quality prairie, in a gently-rolling landscape. The site looked as if it had been burned earlier this year. Tim Orwig lived just a few miles away from this prairie, and (no surprise) all of our prior records for the target species are from him:

Sept. 10, 1988 – T. Orwig
July 20, 1991 [sic] – T. Orwig

Stone State Park is just a short distance from the previous site. It consists of 1069 acres, with the vast majority forested. A small number of prairie ridges exist in the park, but those I found were quite small; I suspect Tim Orwig had a far more intimate knowledge of the site, which resulted in these records:

Aug. 31, 1989 – T. Orwig
Sept. 9, 1989 – T. Orwig

Perhaps the most disappointing site I visited was the 90-acre Mt. Talbot State Preserve just north of Stone State Park. Although this mostly-forested natural area has about 35 acres of native prairie, I found it overrun with five- to six-foot tall grasses that not only obscured the search for skippers, it also overwhelmed the limited number of nectar sources. The access road is marginal, consisting of a dirt/gravel road that shows the effects of weather events. I rate the site as medium quality, even though the flora include leadplant, skeleton weed, pasqueflower, snow-on-the-mountain, gaura, yucca, and prairie turnip. Previous Lepidoptera records include Olympia Marble, Dusted Skipper, Melissa Blue, Arogos Skipper, Ottoe Skipper, Regal Fritillary, Pawnee Skipper, and Reakirt's Blue (Herzberg and Pearson, 2001). Perhaps the site has deteriorated since Tim Orwig found these records for Leonard's Skipper:

Sept. 9, 1989 – T. Orwig
Aug. 23, 1991 – T. Orwig
Sept. 7, 1991 – T. Orwig
Aug. 25, 1993 – T. Orwig

Methods

The primary goal of this survey was to locate Leonard's Skippers/Pawnee Skippers at Loess Hills sites in western Iowa by visiting sites known to have previous target species records, and to visit a few additional sites believed to have a good possibility for holding populations of the target species.

To accomplish this goal, surveys were conducted during normal flight times for the target species starting in extreme southwest Iowa, and working my way northward up to Sioux City in northwest Iowa.

The principal researcher selected days where field surveys had the greatest likelihood of locating the highest number of species. This means surveys occurred when meteorological conditions favored the active presence of target species. Weather conditions – temperature, wind speed and direction, and approximate cloud cover percentage – were recorded for each visit. Track logs were recorded on a Garmin eTrex 20 GPS mapping device for all sites with the exception of the Loess Hills Wildlife Management Area, when I apparently turned the GPS device off before saving the track log.

Site visits consisted of meandering transects, concentrating on sampling habitat types appropriate for the target species. Particular emphasis was placed on searching prairie ridge tops, a habitat known to favor locating target species. The researcher scanned an area to the left, to the front, and to the right to a distance of about five meters, recording all butterfly/skipper species seen, and in what numbers.

Results

Results for the ten site surveys yielded a total of 615 butterflies and skippers representing 31 species. A total of five *Hesperia leonardus leonardus* were found; none was the subspecies *H. l. pawnee*. Target species were found at Hitchcock Nature Area (one male), Sylvan Runkel State Preserve (two females), Loess Hills Wildlife Area (one female), and Turin Loess Hills State Preserve (one male). All appeared to be recent hatches, and all but one were nectaring on blazing star.

Looking at the general results for each site, we find the following:

<u>Site</u>	<u>Species</u>	<u>Total Butterflies</u>	<u>Total Hrs</u>	<u>Estimated Total Miles</u>
Waubonsie State Park	13	110	4.5	3.0
Vincent Bluff State Preserve	10	42	1.5	0.5
Hitchcock Nature Area	16	98	1.75	0.8
Gleason-Hubel W.M.A.	11	59	1.0	0.4
Sylvan Runkel State Preserve	14	84	1.8	1.3
Loess Hills Wildlife Area	11	57	1.2	0.7
Turin Loess Hills State Pres.	16	48	1.2	0.5
Sioux City Prairie Preserve	9	54	1.67	1.1
Stone State Park	8	18	0.5	0.5
Mt. Talbot State Preserve	7	45	1.1	0.8

Following the text of this report are individual log sheets for each site visit. Note that for Waubonsie State Park, Hitchcock Nature Area, and Stone State Park, the log sheets list species seen *and list which of the distinct parts of the site those species were found in*. Each site log sheet is accompanied by a map of the actual path walked (track log), with contour lines, elevations, and Waypoints. The Waypoints data for each site are shown at the bottom of each log sheet, and list the species for that Waypoint. For example, on the Waubonsie State Park Log Sheet, Waypoint 2 records the sighting of an *Atalopedes campestris*.

Discussion

The year 2013 has proven to be a sobering one in terms of both the diminished number of species and the total number of any given species. Anecdotal reports as well as on-going formal inventories have, for the most part, shown the consequences of last year's drought and extremely high temperatures combined with 2013's extreme spring rainfall and cool temperatures. It is this researcher's belief that these weather factors have adversely and profoundly affected the populations of butterflies and skippers in the Midwest.

The Drought of 2012

As widely reported, Iowa experienced an exceptionally dry and hot summer during 2012. According to *The Des Moines Register* (Jan. 1, 2013), "Weather in Iowa...was hot and dry for most of the year. The worst drought since the 1936 Dust Bowl year affected crops, livestock and river levels." As of December 31, 2012, eastern Iowa had received 9.72 inches less rain than normal (normal for the year is 36.01 inches), and most of the state remained in an extreme drought condition.

Statewide, it was the warmest March on record – 15.2° F warmer than normal – with an average overall temperature of 51.1° F, breaking the 1910 record of 48.7°. Temperatures for Iowa for the months May, June, and July were 5.0°, 1.9°, and 6.3° Fahrenheit above normal respectively. Indeed, it was the third-hottest July on record in Iowa, and the fifth-driest (*The Des Moines Register*, Jan. 1, 2013). In July Des Moines recorded 10 days with 100° F or higher. Although Lepidoptera initially responded favorably in the spring – with very early adult emergences and high numbers of individuals and species, by summer the continuation of heat and subsequent lack of rain dramatically and negatively impacted both food plants and nectar sources for butterflies and skippers.

The Gazette [newspaper published in Cedar Rapids] reported that in late July the United States Department of Agriculture showed 75 percent of Iowa in severe drought. According to Iowa Agriculture Secretary Bill Northey, we experienced the fifth driest and third hottest July on record. In early September *The Gazette* reported that although June, July, and August are our rainiest months of the year, 2012 recorded (in Cedar Rapids) only 6.60 inches of rain when normal rainfall would be 13.86 inches. And according to State Climatologist Harry Hillaker, average statewide precipitation averaged 20.57 inches, more than 9 inches below the normal 29.69 inches for the first nine months of the year.

Finally, as reported in *The Gazette* on January 1, 2013, during 2012 Iowa experienced its worst drought since the 1936 Dust Bowl year. They also reported that during the winter of 2011-2012, the temperature failed to drop to zero degrees or below for the first time since record keeping began with the winter of 1878-1879.

The Cool, Wet Months of Early 2013

The Gazette reported on May 27, 2013 that for the year 2013 Cedar Rapids had already received 19.67 inches of rain, 8.22 inches above normal. A few days later *The Gazette* reported that the months March, April, and May, had established a record amount of rainfall, making it “the wettest Spring (March through May) on record.” On June 5th *The Gazette* stated that the temperatures for that same time period had averaged 3.2 cooler than normal. And on June 26, 2013 *The Gazette* reported that although normal rainfall through the end of June is 15.92 inches, Cedar Rapids had already received 24.68 inches. Similar situations applied throughout eastern Iowa.

Both record rainfalls and cooler temperatures negatively impact the viability of butterflies, skippers, and moths to survive, and suggests that the counts of both the number of species as well as the number of any given species seen may have been reduced by the incidence of a year of record heat and drought followed by record rainfall and weeks of cool temperatures the next spring. Obviously other factors may have impacted the results, as well; populations of the target species in the Loess Hills have never been close to abundant, to the best of my knowledge.

I had received personnel communication in August from Aaron Brees of the Iowa Department of Natural Resources indicating he might be able to visit Folsom Point Prairie Preserve near Council Bluffs (a large native prairie owned by The Nature Conservancy) while I was in the Loess Hills, but unfortunately he was not able to get to this site. Since we have quite a few records of *H. leonardus* from that site, future efforts should definitely target Folsom Point.

I also received personnel communication in September from other researchers in northeast Iowa regarding finding *Hesperia l. leonardus*. These include:

Sept. 1, 2013 – Pohlman Prairie, Dubuque Co., T. Jantscher (1)

Sept. 3, 2013 – Zoll’s Mountain (hill prairie southwest of New Albin), Allamakee Co.,
Dr. Kirk Larsen (7)

I had previously discovered Leonard’s Skipper at Pohlman Prairie in 2012, recording 10 of them on Sept. 12.

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Literature Cited

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Waubonsie State Park Log Sheet

Date: Sept. 2, 2013

Weather: 10:00-3:20, 70-100% clear, N 0-5 wind, 64-78°

<u>Species List</u>	<u>Number Seen*</u>	<u>Comments</u>
Epargyreus clarus	0 – 1 – 0	On blazing star, condition 1
Pyrgus communis	1 – 1 – 3	♀ condition 1
Atalopedes campestris	3 – 7 – 4	10 ♂, 4 ♀
Polites themistocles	1 – 0 – 1	1 ♂, 1 ♀
Wallengrenia egeremet	0 – 2 – 0	2 ♂
Euphyes vestris	1 – 13 – 7	
Papilio glaucus	0 – 0 – 1	
Pieris rapae	0 – 3 – 2	
Colias eurytheme	2 – 0 – 4	
Phoebis sennae	0 – 0 – 2	Flying like bats out of hell
Eurema lisa	1 – 0 – 2	
Strymon melinus	1 – 2 – 4	Condition 1
Everes comyntas	4 – 8 – 12	
Danaus plexippus	1 – 1 – 2	1 on snow-on-the-mountain
Euptoieta claudia	1 – 0 – 0	
Speyeria cybele	0 – 5 – 0	
Phyciodes tharos	1 – 0 – 2	
Polygonia interrogationis	0 – 1 – 0	Caught & released; condition 1
Junonia coenia	2 – 0 – 0	
Vanessa atalanta	0 – 1 – 0	

Total Species: 13

Total Count: 110

Total hours: 4,5 actual time at sites

Comments

* First number is for hillside prairies at the south terminus of Sunset Ridge Trail (the prairies are on the north side of a dead-end turnaround); the second number is for Sunset Ridge Trail starting at the north end of the trail and proceeding west and then south; the third number is for roadside areas along a hillside street in the southeast part of the park where numerous cabins, a dining hall, and a “cook’s cabin” are located.

Note: I also surveyed Ridge Trail from 1:40 to 2:05 p.m., but observed no butterflies.

In bloom: 1st location: Many goldenrod, rough blazing star, flowering spurge, partridge pea, snow-on-the-mountain, big bluestem up to 8-feet tall ; 2nd location: thistles, goldenrod, round headed bush clover, partridge pea, snow-on-the-mountain, rough blazing star; 3rd location: mostly low clovers.

Actual time at 3 locations: 1st location: 10:00-11:00; 2nd location: 11:20-1:40; 3rd location: 2:35-3:20.

Waypoint 1: *Atalopedes campestris* (2), *Polites themistocles*, *Euphyes vestris*
N40 40.036 W95 41.750, 1127 feet 10:15 a.m.

Waypoint 2: *Atalopedes campestris* N40 40.067 W95 41.655, 1146 feet 10:48 a.m.

Waypoint 3: *Atalopedes campestris*, *Euphyes vestris* N40 40.364 W95 41.609, 1176 feet 11:40 a.m.

Waypoint 4: *Wallengrenia egeremet* N40 40.372 W95 41.831, 1199 feet 11:53 a.m.

Waypoint 5: *Euphyes vestris* N40 40.322 W95 42.190, 1237 feet 12:19 p.m.

Waypoint 6: *Euphyes vestris* N40 40.211 W95 42.121, 1244 feet 12:35 p.m.

A waypoint chosen at random for the 3rd location is: 40° 39.915, 95° 41.373, 1160 feet 2:49 p.m.

I vouchered several *E. vestris* and 1 *W. egeremet*. The first site looked burned this year.

Vincent Bluff State Preserve Log Sheet

Date: Sept. 3, 2013

Weather: 9:40-11:10, 65-75°, 100% clear, winds SSW 0-5

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Erynnis baptisiae	1	Vouchered
Atalopedes campestris	16	9 ♂, 7 ♀, most condition 1
Anatrytone logan	2	Condition 1
Papilio polyxenes	1	
Pieris rapae	1	
Colias eurytheme	7	
Everes comyntas	10	
Danaus plexippus	2	Condition 1
Junonia coenia	1	
Vanessa cardui	1	Condition 1

Total Species: 10

Total Count: 42

Total hours: 1.5 hr.

In bloom: goldenrod, many rough blazing star, blue salvia, thistles, a few gray headed coneflower, ironweed, snow-on-the-mountain, a few flowering spurge, much brome. Not in bloom: leadplant, milkweed.

This is a high quality site, but has too much brome. I spent a good amount of time on this site since it is a rather recently acquired State Preserve, and lies in the middle of Council Bluffs – an unusual location for a high quality site. The site has many rough blazing stars on the ridge tops, but in some locations the extent of brome is crowding out the blazing star. Site did not look burned.

Waypoint 8: *A. campestris*, female (vouchered). N41 14.468 W95 50.006, 1225 feet 10:07 a.m.

Waypoint 9: *E. baptisiae*, (vouchered). N41 14.521 W95 50.04, 1217 feet 10:25 a.m.

Hitchcock Nature Area Log Sheet

Date: Sept. 3, 2013

Weather: 12:30-2:15, 100% clear, S 0-7 wind, 76-79°

<u>Species List</u>	<u>Number Seen*</u>	<u>Comments</u>
Epargyreus clarus	1 – 0	
Hesperia leonardus	1 – 0	♂ condition 1 on high ridge top
Atalopedes campestris	0 – 1	♂
Polites peckius	1 – 0	
Wallengrenia egeremet	1 – 0	
Papilio polyxenes	2 – 0	
Papilio cressphontes	1 – 0	
Pontia protodice	1 – 0	♀ condition 1
Pieris rapae	14 – 17	
Colias eurytheme	5 – 10	
Eurema lisa	1 – 0	
Everes comyntas	8 – 5	
Danaus plexippus	3 – 2	
Phyciodes tharos	13 – 9	
Junonia coenia	1 – 0	
Limenitis archippus	1 – 0	Condition 1

Total Species: 16

Total Count: 98

Total hours: 1.75 actual time at sites

Comments

* First number is Badger Ridge Trail; second number is for Blazing Star Trail.

In bloom: 1st location: goldenrod, many rough blazing star, blue salvia, thistles, a few gray headed coneflower, snow-on-the-mountain, round headed bush clover, one ironweed, a few flowering spurge, tons of brome; 2nd location: adjoins first location, but much lower quality with fewer quality plants.

First location consists of ridge tops on hills with high quality prairie and some woods. Second location has far fewer prairie plants, more open woods, and corn fields in parts of the trail. A naturalist at the site says the Badger Ridge Trail is the highest quality trail at this site. One or two other trails have reconstructed prairie. At with all other sites I'm visiting, this site is very dry. Also saw a White-lined Sphinx and a couple of lizards/skinks.

Actual time at 2 locations: 1st location: 12:30-1:40; 2nd location: 1:40-2:15.

Waypoint 11: *Hesperia leonardus* (one male, condition 1, digital images).

N41 24.364 W95 51.732, 1262 feet 1:05 p.m.

Waypoint 12: *Wallengrenia egeremet*. N41 24.438 W95 51.900, 1291 feet 1:08 p.m.

Gleason-Hubel Wildlife Area Log Sheet

Date: Sept. 3, 2013

Weather: 3:30-4:30, 83-84°, 100% clear, winds SW 0-8

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Epargyreus clarus	3	
Atalopedes campestris	11	4♂, 7♀; caught & released 3 ♀, 1 ♂
Polites themistocles	1	Caught & released condition 1- ♂
Anatrytone logan	1	Caught & released
Pieris rapae	7	
Colias eurytheme	21	
Everes comyntas	7	
Danaus plexippus	3	
Phyciodes tharos	3	
Junonia coenia	1	
Vanessa cardui	1	Condition 1

Total Species: 11

Total Count: 59

Total hours: 1.0 hr.

In bloom: many goldenrod, tons of brome, snow-on-the-mountain, rough blazing stars. This site is medium to high quality.

Waypoint 13: 3 A. *campestris* N41 43.011 W95 57.900, 1195 feet 4:01 p.m.

Sylvan Runkel State Preserve Log Sheet

Date: Sept. 4, 2013

Weather: 10:15-12:05, 72-79°, 60→10% clear, winds SE 0-8

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Epargyreus clarus	3	
Hesperia leonardus	2	2 ♀ on rough blazing star; 1 voucher
Atalopedes campestris	5	3 ♂, 2 ♀; caught & released all
Polites themistocles	1	1 ♂
Papilio polyxenes	1	
Pontia protodice	1	
Pieris rapae	2	
Colias eurytheme	28	
Everes comyntas	19	
Danaus plexippus	2	
Euptoieta claudia	2	Both condition 1, on goldenrod
Phyciodes tharos	13	
Junonia coenia	3	
Cercyonis pegala	2	

Total Species: 14

Total Count: 84

Total hours: 1.8 hr.

In bloom: many goldenrod, many thistles, tons of ragweed, snow-on-the-mountain, brome, a few asters, rough blazing star. This site is medium to high quality. Site has many leadplant, not in bloom. Saw two White-lined Sphinx moths at the site.

A DNR employee driving a Bobcat at the site told me the site had been burned in the spring.

Waypoint 14: *H. leonardus*, 1 female N42 06.508 W95 58.467, 1362 feet 10:53 a.m.

Waypoint 15: *A. campestris*, 2 males N42 06.451 W95 58.569, 1310 feet 11:07 a.m.

Waypoint 16: *A. campestris*, 1 male, 1 female; *P. themistocles* male

N42 06.418 W95 58.592, 1310 feet 11:16 a.m.

Waypoint 17: *A. campestris*, 1 female N42 06.176 W95 58.650, 1241 feet 11:41 a.m.

Loess Hills Wildlife Area Log Sheet

Date: Sept. 4, 2013

Weather: 12:45-1:55, 82-83°, 15-10% clear, winds var. 0-2

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Hesperia leonardus	1	♀ on rough blazing star; vouchered
Atalopedes campestris	2	2 ♀ on goldenrod
Papilio polyxenes	1	♂
Papilio cressphontes	1	
Colias philodice	1	
Colias eurytheme	23	
Everes comyntas	11	
Euptoieta claudia	1	Condition 1 on goldenrod
Phyciodes tharos	11	
Junonia coenia	4	
Cercyonis pegala	1	

Total Species: 11

Total Count: 57

Total hours: 1.2 hr.

In bloom: many goldenrod, a few asters, rough blazing stars. This site is medium to high quality. This site looked unburned this year. Not in bloom: many leadplants and some compass plants.

Waypoint 18: *A. campestris* and *H. leonardus* N42 07.253 W95 57.246, 1293 feet 1:41 p.m.

Turin Loess Hills State Preserve Log Sheet

Date: Sept. 4, 2013

Weather: 2:30-3:40, 82-84°, 10→25% clear, winds var. 0-3

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Erynnis baptisiae	5	Several on rough blazing star
Hesperia leonardus	1	♂ on rough blazing star
Atalopedes campestris	1	♂, caught & released
Polites themistocles	1	♂
Papilio polyxenes	1	
Papilio glaucus	3	On thistles
Papilio cressphontes	2	On thistles
Pieris rapae	2	
Colias eurytheme	12	
Everes comyntas	5	
Danaus plexippus	1	
Euptoieta claudia	4	On goldenrod
Speyeria cybele	1	
Phyciodes tharos	3	
Junonia coenia	5	
Vanessa cardui	1	Caught & released

Total Species: 16

Total Count: 48

Total hours: 1.2 hr.

In bloom: many rough blazing star, thistles, many goldenrod, snow-on-the-mountain; lots of brome. Not in bloom: many leadplant and yucca.

I reached the north boundary line at the site after walking the high ridge tops along the west side of the site. This area provides spectacular views of the flat-as-a-pancake landscape stretching westward. Site from medium to high quality, with 100-foot-high slopes reaching grades of 70%; you don't want to slip as you're walking the very narrow ridge tops. Site looks as if it were burned earlier this year. Saw a White-lined Sphinx moth nectaring on thistles.

Waypoint 19: *E. baptisiae* (vouchered one) N42 02.696 W95 57.962, 1217 feet 2:51 p.m.

Waypoint 20: *H. leonardus* (male on rough blazing star, caught and released).

N42 02.753 W95 57.965, 1232 feet 3:01 p.m.

Sioux City Prairie Log Sheet

Date: Sept. 5, 2013

Weather: 9:45-11:25, 68-74°, 15-5% clear, winds S 0-10

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Atalopedes campestris	1	♀, condition 1
Pieris rapae	2	
Colias eurytheme	27	
Everes comyntas	6	
Danaus plexippus	4	
Euptoieta claudia	5	
Phyciodes tharos	3	
Junonia coenia	3	Condition 1, 2+, 3+
Cercyonis pegala	3	

Total Species: 9

Total Count: 54

Total hours: 1.67 hr.

In bloom: countless goldenrod, rough blazing star, snow-on-the-mountain, a few thistles. This site looked burned this year. Not in bloom: many leadplants. This is a medium to high quality site. Many moths; saw a White-lined Sphinx nectaring on rough blazing star. Also saw two or three skippers not mentioned above, but was unable to get close enough for identification.

This site might have been more productive if the weather had been better. While I walked the site, I could see rain falling in the east, and could hear thunder from some lightning strikes.

Waypoint 21: *A. campestris* N42 31.510 W96 25.953, 1290 feet 10:39 a.m.

Stone State Park Log Sheet

Date: Sept. 5, 2013

Weather: 12:35-12:50, 77°, 5% clear, wind S 0-3 *and*
1:10-1:25, 78°, 25→50% clear, wind S 0-1

<u>Species List</u>	<u>Number Seen*</u>	<u>Comments</u>
Everes comyntas	6 – 1	
Celastrina neglecta	0 – 1	
Danaus plexippus	1 – 1	
Euptoieta claudia	0 – 1	Condition 1
Speyeria cybele	0 – 1	
Phyciodes tharos	2 – 0	
Junonia coenia	4 – 0	

Total Species: 8

Total Count: 18

Total hours: 0.5 hr.

In bloom: a few asters, goldenrod, snow-on-the-mountain, snakeroot, a few thistles. No rough blazing stars.

* The first number in this column is for a short, modest-quality ridge top trail near Dakota Ridge. The second number is for a rather low quality trail near woods to the northwest of the park office; this trail was recommended by the park ranger, but turned out to be disappointing, to say the least. The two Weather conditions at top right are for these two areas, respectively. I was unable to obtain more accurate information for possible high-quality areas of the site, so I left and headed for Mt. Talbot State Preserve located on the north end of this site.

Mt. Talbot State Preserve Log Sheet

Date: Sept. 5, 2013

Weather: 2:00-3:05, 80-81°, 70→50% clear, winds S 0-1

<u>Species List</u>	<u>Number Seen</u>	<u>Comments</u>
Colias eurytheme	13	
Everes comyntas	8	
Strymon melinus	1	Condition 1 on goldenrod
Euptoieta claudia	6	
Phyciodes tharos	4	
Junonia coenia	12	
Nymphalis antiopa	1	

Total Species: 7

Total Count: 45

Total hours: 1.1 hr.

In bloom: many goldenrod, a few rough blazing star, a few snow-on-the-mountain. This site is medium quality. Not in bloom: many leadplants. I took several digital images of a stunning chrysalis I found on leadplant.

I was quite disappointed with this site since it had relatively few nectar sources, and the grasses were frequently at eye level or above, making observation of target species difficult.

Also saw a White-lined Sphinx.