

A 2015 Survey of Butterflies at Wild Iris Ridge *



WIR in June
By David Hagen

**By Eugene/Springfield
North American Butterfly Association
Summer 2015
Reported by David Hagen**

*** Managed by
City of Eugene
Parks & Open
Spaces**

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Background

In 2015, a volunteer group from the Eugene/Springfield chapter of the North American Butterfly Association (NABA-E/S) surveyed the butterfly population in the 256 acre Wild Iris Ridge preserve of the City of Eugene, OR.

Because this site displays a variety of habitats, we recorded our observations separately for four distinct “zones” (see Figure 1) in the survey area:

- “Entry Road”
- “Hillside”
- “Woodland”
- “Homestead”

Our survey group sought to identify butterfly species, to count the total number of butterflies, and to comment on the general quality of the butterfly habitat

Procedures

At the Wild Iris Ridge in 2015 we conducted surveys throughout the butterfly season, generally surveying twice a month (see Table 1). We followed a route (see Figure 1), which we had established during our first survey: the Entry Road, the Hillside, the Woodlands, and the Homestead regions. Each survey day we recorded the weather, the number and names of the participants, and the time on site. Our tally sheets contained separate columns for the four zones of our survey area.



Results

Overview

Fifteen volunteers participated in the 2015 study at Wild Iris Ridge. The group completed nine surveys extending from March 29th through October 23rd. The volunteers spent 127 person-hours in the field (Tables 1 and 7). In total, we logged about 165 person-hours on this project when travel, prep work, and analysis times are included.

In this survey, we identified 28 different butterfly species (Table 1). We counted 996 individual butterflies — 357 in the Entry-Road Zone (Table 2), 201 in the Hillside Zone (Table 3), 338 in the Woodland Zone (Table 4), and 100 in the Homestead Zone (Table 5).

The five most common butterflies observed were: *Propertius duskywings* (*Erynnis propertius*), with 202; Ochre ringlets (*Coenonympha tullia*), with 201; Silvery blues (*Glaucopsyche lygdamus*), with 118; Common wood-nymphs (*Cercyonis pegala*), with 78; and Common checkered-skippers (*Pyrgus communis*), with 77. The butterflies seen at Wild Iris Ridge showed us a different spectrum from what we have observed previously at comparable areas in the Willamette Valley in other years. (See Table 6; more on this, below).



The top five butterflies, as they were observed at different times of the year, are shown graphically in the top panel of Figure 1 (Butterfly Group 1). *Propertius duskywings* and Silvery blue appeared the earliest (primarily in April and May) and showed only one brood each. Ochre ringlets appeared next and apparently have two broods (one in early June and one in August). Wood-nymphs and Common checkered-skippers appeared in July with single broods.

The middle panel of Figure 1 (Butterfly Group 2) shows the timings for the slightly less frequent butterflies: Painted ladies, Lorquin admirals, California sisters, Western tiger swallowtails, and Woodland skippers. The bottom panel of Figure 3 (Butterfly Group 3) shows the results for the even less frequent butterflies: Orange sulfurs, Gray hairstreaks, Mylitta crescents, Artic skippers, and Red admirals. The numbers in Group 2 and especially in Group 3 are fairly low, so it is unwise to draw any conclusions about the occurrence of these butterflies. The numbers for other species were even lower and are not represented graphically (for these, see Table 1).

It is noteworthy that, on June 8th, we observed one Common roadside-skipper. This butterfly, small and unimpressive in appearance, has been seen before in Lane County. But it is very rare, and none of us had ever seen it before in the county. Otherwise, the butterflies we saw were not unusual for this survey locale.





Zone-by-zone comparisons

We have compared the butterfly occurrences in the four zones which we surveyed at Wild Iris Ridge. The results are presented in Tables 2–5 and graphically for the top five butterflies (Butterfly Group 1) in Figure 2. Properius duskywings were especially abundant in the Entry Road and Woodland Zones. However, most of the site differences observed were with the less numerous butterflies (Tables 2–5), where it is unsafe to draw any conclusions.



Comparisons to previous surveys

NABA-ES has performed surveys in other, nearby wetland areas in recent seasons. In 2009 and in 2010 we surveyed Dragonfly Bend (and the adjacent Brigg's Site); in 2011 and 2012, Coyote Prairie; in 2013, Willow Creek; and in 2014, the Confluence (a TNC-managed preserve near the junction of the Coastal and Middle Fork of the Willamette River). Although these surveys were in different areas and in different years, we can make some tentative comparisons.

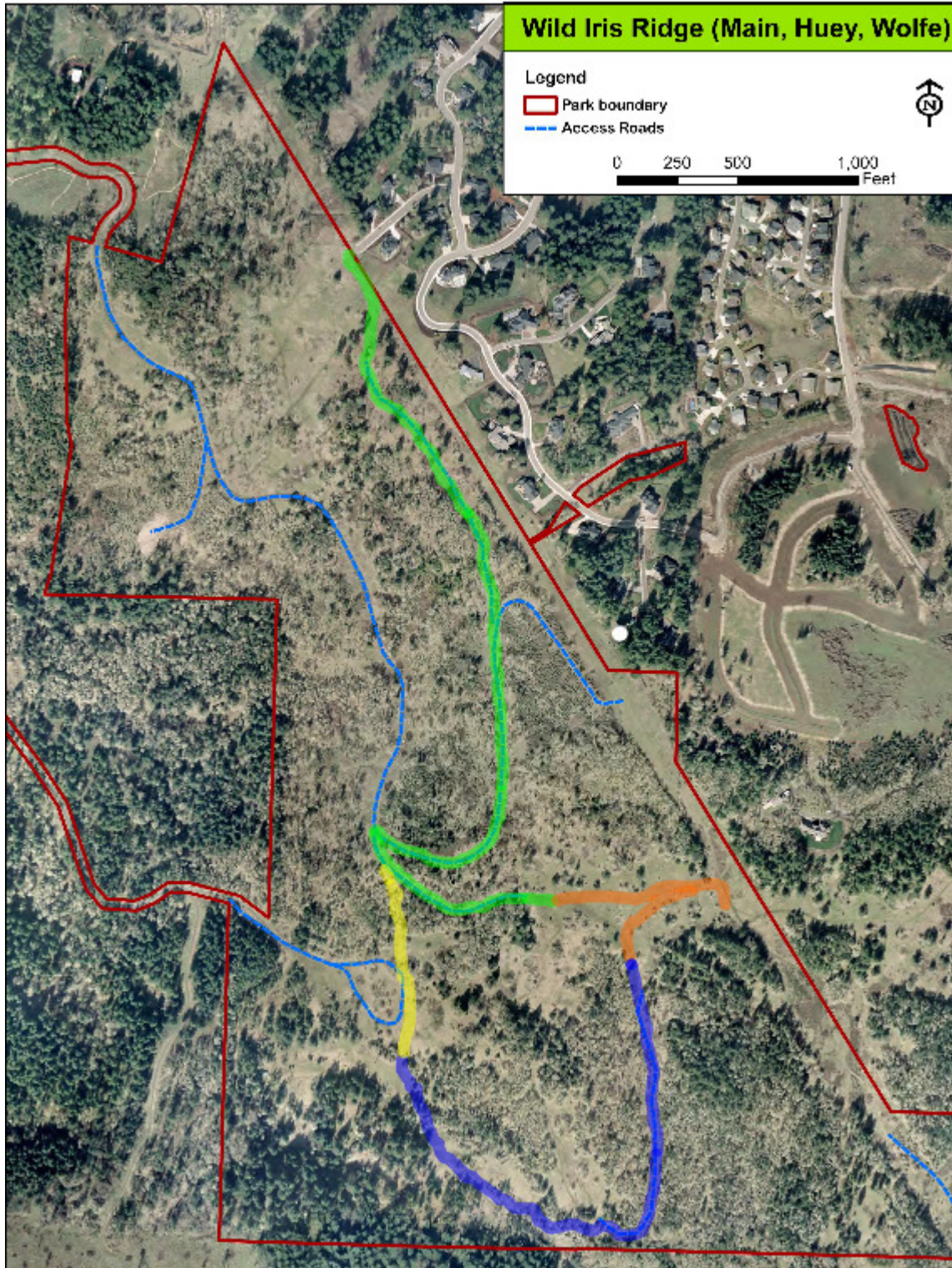
The top-five butterflies counted at these sites were surprisingly dissimilar (Table 6). Properius duskywings only made the top-five list for Wild Iris Ridge. Sachem skippers were extremely common at Coyote Prairie, and only slightly less common at Dragonfly bend, but they were not observed at all at Wild Iris Ridge. Similarly, Field crescents were common at Coyote Prairie and Willow Creek, but not seen at Wild Iris Ridge. Eastern tailed-blues, common at Coyote Prairie and at Dragonfly Bend, were rare at Wild Iris Ridge. The reason for these dissimilarities is unclear. However, Ochre ringlets and Common wood-nymphs were abundant at most of the survey sites.

Future Plans

The Eugene/Springfield chapter of NABA has decided to skip our surveying efforts in 2016. We will possibly repeat our survey of Wild Iris Ridge again in a future year. It is a beautiful site and conveniently nearby. However, we will also consider returning to re-survey sites we have visited previously: the Confluence, Willow Creek, Coyote Prairie, or Dragonfly Bend. Alternatively, we may choose to survey a new location. Regardless of our decision, we hope to see numerous butterfly individuals and many different species here in the Willamette Valley.



Figure 1. Wild Iris Ridge and Survey Zones



**Survey
Zones**

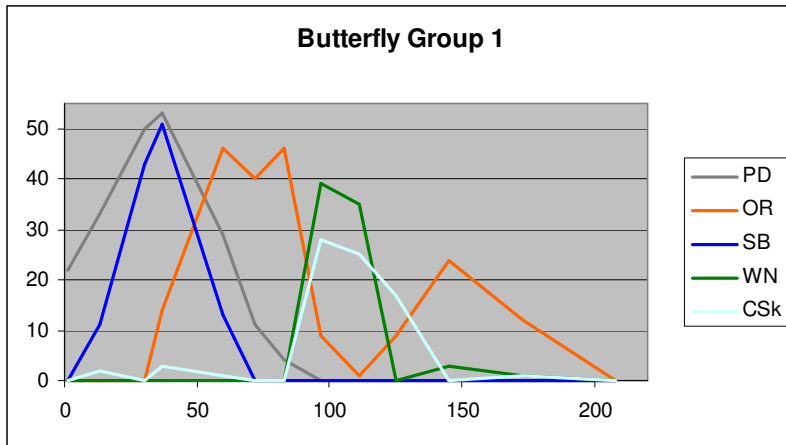
Green: "Entry Road"

Blue: "Lower Woodland"

Orange: "Hillside"

Yellow: "Homestead"

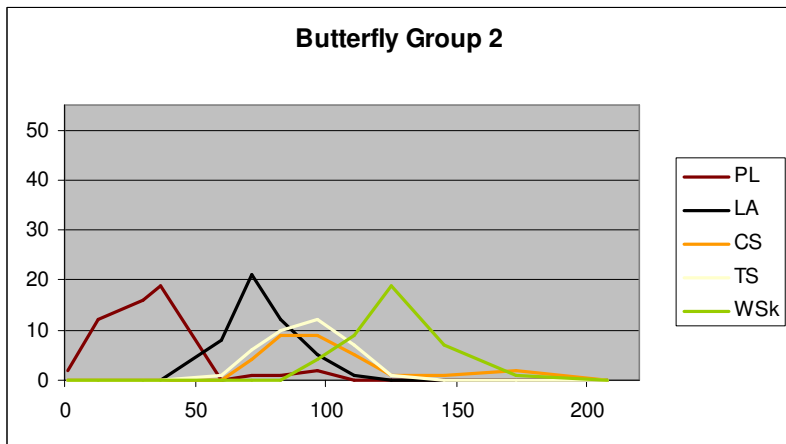
Figure 1. Wild Iris Ridge Survey Graphs



Notes:

Day 1 = Mar 29
 Day 50 = May 17
 Day 100 = July 6
 Day 150 = Aug 25
 Day 200 = Oct 14

Apr 1 = Day 4
 May 1 = Day 34
 Jun 1 = Day 65
 Jul 1 = Day 95
 Aug 1 = Day 126
 Sep 1 = Day 157
 Oct 1 = Day 187



ASk = Arctic skipper
 CS = California sister
 CSk = Common ch. skipper
 GH = Gray hairstreak
 LA = Lorquin's admiral
 MC = Mylitta crescent
 OR = Ochre ringlet
 OS = Orange sulfur
 PD = Propertius duskywing
 PL = Painted lady
 RA = Red adviral
 SB = Silvery blue
 WN = Wood-nymph
 WSk = Woodland skipper
 TS = W. tiger swallowtail

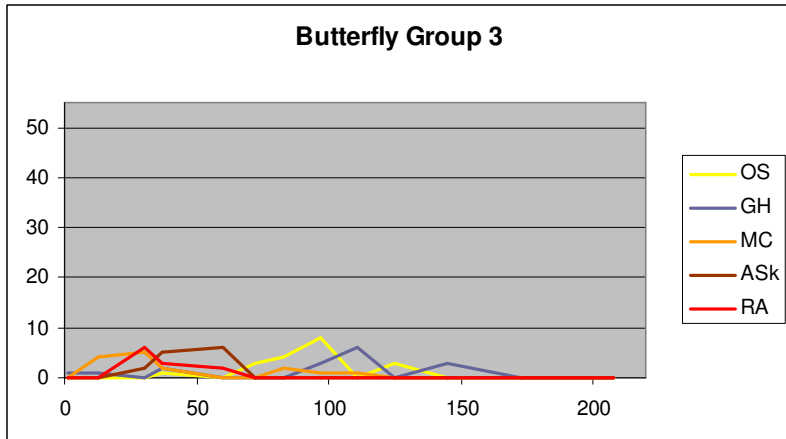
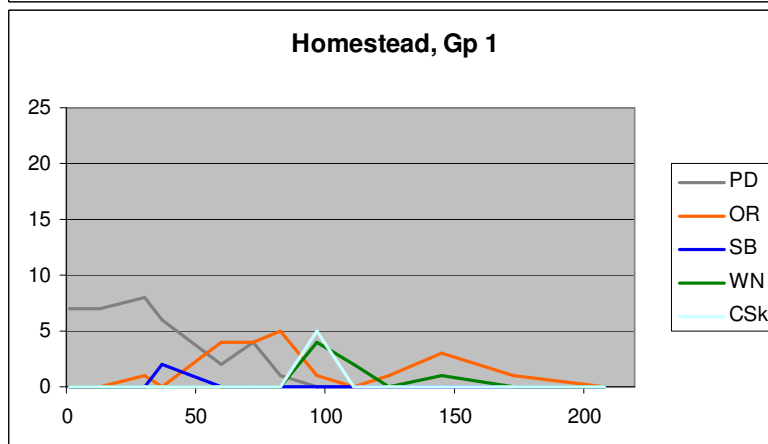
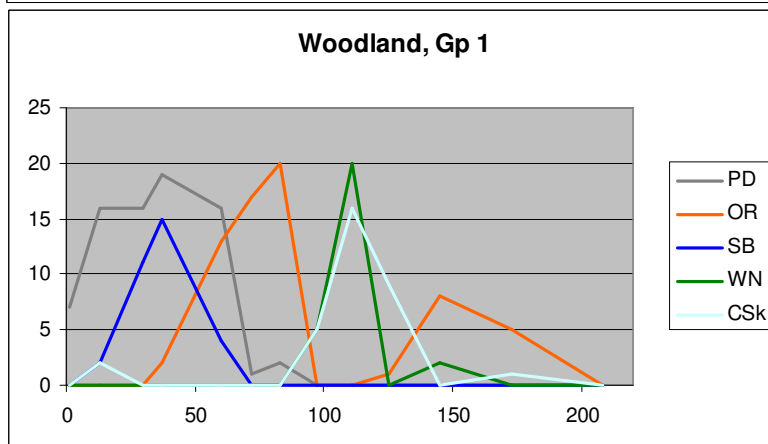
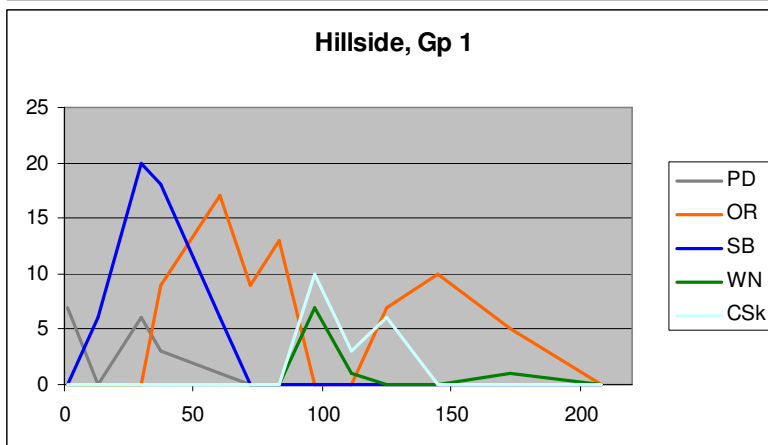
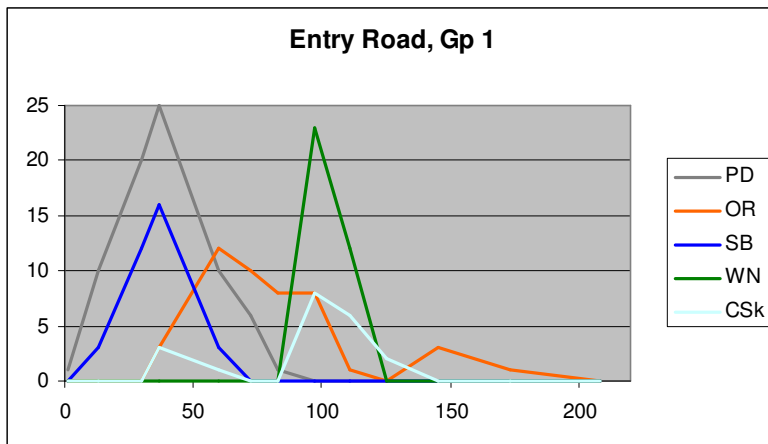


Figure 2. Zone-by-zone Comparison



Notes:

Day 1 = Mar 29
 Day 50 = May 17
 Day 100 = July 6
 Day 150 = Aug 25
 Day 200 = Oct 14

Apr 1 = Day 4
 May 1 = Day 34
 Jun 1 = Day 65
 Jul 1 = Day 95
 Aug 1 = Day 126
 Sep 1 = Day 157
 Oct 1 = Day 187

CSk = Common ch. skipper
 PD = Propertius duskywing
 OR = Ochre ringlet
 SB = Silvery blue
 WN = Wood-nymph

Table 1. Wild Iris Ridge 2015 Survey Summary

														Total species no:	28
Day number:	1	13	30	37	60	72	83	97	111	125	145	174	209		
Date:	3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23		
Common Name														Ind Tot	
Western Tiger Swallowtail	0	0	0	0	1	6	10	12	7	1	0	0	0	0	37
Anise Swallowtail	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Clodius Parnasian	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Cabbage White	1	0	1	0	0	0	1	0	0	1	0	1	0	0	5
Mustard White	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Orange Sulphur	0	0	0	1	0	3	4	8	0	3	0	0	0	0	19
Gray Hairstreak	1	1	0	2	0	0	0	3	6	0	3	0	0	0	16
Eastern Tailed-blue	0	0	2	0	0	0	0	2	1	0	0	0	0	0	5
Silvery Blue	0	11	43	51	13	0	0	0	0	0	0	0	0	0	118
Spring (Echo) Azure	3	1	0	0	0	0	1	0	0	0	0	0	0	0	5
Myllitta Crescent	0	4	5	2	0	0	2	1	1	0	0	0	0	0	15
Satyr Comma	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mourning Cloak	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Red Admiral	0	0	6	3	2	0	0	0	0	0	0	0	0	0	11
West Coast Lady	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Painted Lady	2	12	16	19	1	1	1	2	0	0	0	0	0	0	54
Lorquin's Admiral	0	0	0	0	8	21	12	5	1	0	0	0	0	0	47
California Sister	0	0	0	0	0	4	9	9	5	1	1	2	0	0	31
Common Wood-Nymph	0	0	0	0	0	0	0	39	35	0	3	1	0	0	78
Ochre (Common) Ringlet	0	0	1	14	46	40	46	9	1	9	24	12	0	0	202
Properitus Duskywing	22	33	50	53	29	11	4	0	0	0	0	0	0	0	202
Common Checkered Skipper	0	2	0	3	1	0	0	28	25	17	0	1	0	0	77
Two-banded Checkered Skipper	2	1	0	0	1	0	0	0	0	0	0	0	0	0	4
Arctic Skipper	0	0	2	5	6	0	0	0	0	0	0	0	0	0	13
Sonoran Skipper	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Dun Skipper	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Woodland Skipper	0	0	0	0	0	0	0	4	9	19	7	1	0	0	40
Common Roadside Skipper	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Indiv. totals:	32	65	129	154	110	87	98	122	92	51	38	18	0	996	
Surveyors:	2	3	7	5	4	3.5	5	5.5	8.5	5	3	3	1		
Field hours:	2.00	3.00	2.50	2.50	3.00	2.50	2.50	2.00	2.25	2.00	1.75	1.50	1.25	28.75	
Field-person-hours:	4.00	9.00	17.50	12.50	12.00	8.75	12.50	11.00	19.13	10.00	5.25	4.50	1.25	127.38	
Travel person-hours:	1.00	1.50	3.50	2.50	2.00	2.50	2.50	3.00	4.50	3.00	1.50	1.50	0.50	29.50	
Extra vol pers-hrs (prep):	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	5.00	8.25	
Volunteer-person-hours: †	5.50	10.75	21.25	15.25	14.25	11.50	15.25	14.25	23.88	13.25	7.00	6.25	6.75	165.13	
Weather notes: †	w / c / s	c / b / c	w / c / p	w / b / s	w / b / s	h / b / s	h / b / s	h / c / s	h / b / s	h / c / s	w / b / s	w / c / s	c / c / c		
Date:	3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23		

* Volunteer hours

Volunteer hours include hours in the field, travel time to and from the site, and prep time.

Travel time was estimated at 30 minutes each way,

"Extra" volunteer hours includes meeting time, prep time, report writing afterward, etc. sometimes before or after the date.

Total volunteer hours: 165.13

† Weather notes

This is encoded as Temperature/Wind/Sky using the following abbreviations:

Temperature: h = hot (>80F), w = warm (65-80F), c = cool (<65F)

Wind: c = calm (0-5mph), b = breezy (5-15mph), w = windy (15-25mph), s = strong (>25mph)

Sky: s = sunny, p = partly cloudy, c = cloudy, d = drizzly, r = rainy, * = cancelled

Table 2. Entry Road Summary

		Total species no: 22												
Day number:	1	13	30	37	60	72	83	97	111	125	145	174	209	
Date:	3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23	
Common Name														Ind Tot
Western Tiger Swallowtail	0	0	0	0	0	4	4	8	6	0	0	0	0	22
Anise Swallowtail	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Clodius Parnasian	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cabbage White	0	0	1	0	0	0	1	0	0	1	0	1	0	4
Mustard White	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orange Sulphur	0	0	0	0	0	2	0	3	0	3	0	0	0	8
Gray Hairstreak	0	0	0	1	0	0	0	3	4	0	2	0	0	10
Eastern Tailed-blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silvery Blue	0	3	12	16	3	0	0	0	0	0	0	0	0	34
Spring (Echo) Azure	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Mylitta Crescent	0	2	2	1	0	0	1	1	0	0	0	0	0	7
Satyr Comma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mourning Cloak	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Red Admiral	0	0	2	1	0	0	0	0	0	0	0	0	0	3
West Coast Lady	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Painted Lady	1	9	7	9	1	1	1	2	0	0	0	0	0	31
Lorquin's Admiral	0	0	0	0	2	8	6	4	0	0	0	0	0	20
California Sister	0	0	0	0	0	0	1	5	2	1	1	0	0	10
Common Wood-Nymph	0	0	0	0	0	0	0	23	12	0	0	0	0	35
Ochre (Common) Ringlet	0	0	0	3	12	10	8	8	1	0	3	1	0	46
Protertius Duskywing	1	10	20	25	10	6	1	0	0	0	0	0	0	73
Common Checkered Skipper	0	0	0	3	1	0	0	8	6	2	0	0	0	20
Two-banded Checkered Skipper	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Arctic Skipper	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Sonoran Skipper	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Dun Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodland Skipper	0	0	0	0	0	0	0	4	4	7	4	1	0	20
Common Roadside Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indiv. totals:	5	25	45	61	31	31	28	69	35	14	10	3	0	357

Table 3. Hillside Summary

		Total species no: 16													
Day number:	1	13	30	37	60	72	83	97	111	125	145	174	209		
Date:	3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23		
Common Name														Ind Tot	
Western Tiger Swallowtail	0	0	0	0	0	1	1	0	0	1	0	0	0	3	
Anise Swallowtail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Clodius Parnasian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cabbage White	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mustard White	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Orange Sulphur	0	0	0	0	0	1	3	3	0	0	0	0	0	7	
Gray Hairstreak	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Eastern Tailed-blue	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
Silvery Blue	0	6	20	18	6	0	0	0	0	0	0	0	0	50	
Spring (Echo) Azure	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Mylitta Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Satyr Comma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mourning Cloak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red Admiral	0	0	1	0	1	0	0	0	0	0	0	0	0	2	
West Coast Lady	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Painted Lady	1	0	0	2	0	0	0	0	0	0	0	0	0	3	
Lorquin's Admiral	0	0	0	0	2	10	0	1	0	0	0	0	0	13	
California Sister	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Common Wood-Nymph	0	0	0	0	0	0	0	7	1	0	0	1	0	9	
Ochre (Common) Ringlet	0	0	0	9	17	9	13	0	0	7	10	5	0	70	
Proterius Duskywing	7	0	6	3	1	0	0	0	0	0	0	0	0	17	
Common Checkered Skipper	0	0	0	0	0	0	0	10	3	6	0	0	0	19	
Two-banded Checkered Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arctic Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sonoran Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dun Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Woodland Skipper	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
Common Roadside Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Indiv. totals:	10	7	28	32	27	21	17	24	4	15	10	6	0	201	

Table 4. Woodland Summary

		Total species no: 23													
Day number:		1	13	30	37	60	72	83	97	111	125	145	174	209	
Date:		3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23	
Common Name															Ind Tot
Western Tiger Swallowtail		0	0	0	0	1	1	3	1	1	0	0	0	0	7
Anise Swallowtail		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clodius Parnasian		0	0	0	0	1	0	0	0	0	0	0	0	0	1
Cabbage White		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mustard White		0	0	1	0	0	0	0	0	0	0	0	0	0	1
Orange Sulphur		0	0	0	1	0	0	1	0	0	0	0	0	0	2
Gray Hairstreak		1	0	0	1	0	0	0	0	2	0	0	0	0	4
Eastern Tailed-blue		0	0	2	0	0	0	0	0	1	0	0	0	0	3
Silvery Blue		0	2	11	15	4	0	0	0	0	0	0	0	0	32
Spring (Echo) Azure		0	0	0	0	0	0	1	0	0	0	0	0	0	1
Mylitta Crescent		0	2	3	1	0	0	1	0	1	0	0	0	0	8
Satyr Comma		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mourning Cloak		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red Admiral		0	0	3	2	1	0	0	0	0	0	0	0	0	6
West Coast Lady		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Painted Lady		0	2	6	5	0	0	0	0	0	0	0	0	0	13
Lorquin's Admiral		0	0	0	0	3	2	4	0	1	0	0	0	0	10
California Sister		0	0	0	0	0	2	5	0	3	0	0	2	0	12
Common Wood-Nymph		0	0	0	0	0	0	0	5	20	0	2	0	0	27
Ochre (Common) Ringlet		0	0	0	2	13	17	20	0	0	1	8	5	0	66
Proterius Duskywing		7	16	16	19	16	1	2	0	0	0	0	0	0	77
Common Checkered Skipper		0	2	0	0	0	0	0	5	16	9	0	1	0	33
Two-banded Checkered Skipper		0	1	0	0	1	0	0	0	0	0	0	0	0	2
Arctic Skipper		0	0	0	4	5	0	0	0	0	0	0	0	0	9
Sonoran Skipper		0	0	0	0	0	0	3	0	0	0	0	0	0	3
Dun Skipper		0	0	0	0	0	0	0	0	1	0	0	0	0	1
Woodland Skipper		0	0	0	0	0	0	0	0	5	11	3	0	0	19
Common Roadside Skipper		0	0	0	0	0	1	0	0	0	0	0	0	0	1
Indiv. totals:		8	25	42	50	45	24	40	11	51	21	13	8	0	338

Table 5. Homestead Summary

		Total species no: 14													
Day number:	1	13	30	37	60	72	83	97	111	125	145	174	209		
Date:	3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23		
Common Name														Ind Tot	
Western Tiger Swallowtail	0	0	0	0	0	0	2	3	0	0	0	0	0	5	
Anise Swallowtail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Clodius Parnasian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cabbage White	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Mustard White	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Orange Sulphur	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
Gray Hairstreak	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Eastern Tailed-blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silvery Blue	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
Spring (Echo) Azure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mylitta Crescent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Satyr Comma	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Mourning Cloak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red Admiral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
West Coast Lady	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Painted Lady	0	1	3	3	0	0	0	0	0	0	0	0	0	7	
Lorquin's Admiral	0	0	0	0	1	1	2	0	0	0	0	0	0	4	
California Sister	0	0	0	0	0	2	3	3	0	0	0	0	0	8	
Common Wood-Nymph	0	0	0	0	0	0	0	4	2	0	1	0	0	7	
Ochre (Common) Ringlet	0	0	1	0	4	4	5	1	0	1	3	1	0	20	
Properius Duskywing	7	7	8	6	2	4	1	0	0	0	0	0	0	35	
Common Checkered Skipper	0	0	0	0	0	0	0	5	0	0	0	0	0	5	
Two-banded Checkered Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Arctic Skipper	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
Sonoran Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dun Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Woodland Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Common Roadside Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Indiv. totals:	9	8	14	11	7	11	13	18	2	1	5	1	0	100	

Table 6. Comparison to Earlier Surveys

Survey	Year	Rank	BF	Count
WIR	2015	#1	PD	202
		#2	OR	201
		#3	SB	118
		#4	WN	78
		#5	CSk	77
Confl	2014	#1	OR	96
		#2	SA	71
		#3	MC	61
		#4	WSk	58
		#5	WN	50
WC	2013	#1	OR	512
		#2	WN	355
		#3	CSk	239
		#4	FC	111
		#5	SB	56
CP	2012	#1	SSk	731
		#2	OR	398
		#3	OS	124
		#4	FC	92
		#5	EB	89
CP	2011	#1	SSk	1013
		#2	OR	299
		#3	EB	142
		#4	WN	89
		#5	DSk	53
DF	2010	#1	OR	692
		#2	EB	363
		#3	OS	132
		#4	SSk	81
		#5	SB	57
DF	2009	#1	OS	447
		#2	EB	408
		#3	OR	311
		#4	SSk	80
		#5	WN	43

Survey Sites:

Confl = The Confluence
 WC = Willow Creek
 CP = Coyote Prairie
 DF = Dragonfly Bend

Butterflies:

CSk = Common ch. skipper
 DSk = Dun skipper
 EB = Eastern tailed-blue
 FC = Field crescent
 MC = Mylitta crescent
 OR = Ochre ringlet
 OS = Orange sulfur
 PD = Propertius duskywing
 SA = Spring azure
 SB = Silvery blue
 SSk = Sachem skipper
 WN = Wood-nymph
 WSk = Woodland skipper

Table 7. Summary of Volunteer Times

Day number:		1	13	30	37	60	72	83	97	111	125	145	174	209	
Date:		3/29	4/10	4/27	5/4	5/27	6/8	6/19	7/3	7/17	7/31	8/20	9/18	10/23	
Surveyor Name															Ind Tot
David Hagen	Field hrs:	2.00	3.00	2.50	2.50	3.00	2.50	2.50	2.00	2.25	2.00	1.75	1.50	1.25	28.75
	Travel & Extra Vol. hrs:	1.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	5.50	14.75
Lois Hagen	Field hrs:	2.00	3.00	2.50	2.50	3.00	2.50	2.50	2.00	2.25	2.00	1.75	1.50	0.00	27.50
	Travel & Extra Vol. hrs:	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.00	6.00
Lori Humphreys	Field hrs:	0.00	0.00	2.50	2.50	3.00	0.00	2.50	2.00	2.25	0.00	1.75	1.50	0.00	18.00
	Travel & Extra Vol. hrs:	0.00	0.00	0.50	0.50	0.50	0.00	0.50	0.50	0.50	0.00	0.50	0.50	0.00	4.00
Donald Gudehus	Field hrs:	0.00	0.00	2.50	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	5.00
	Travel & Extra Vol. hrs:	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Linda Cummins	Field hrs:	0.00	0.00	2.50	2.50	3.00	0.00	0.00	0.00	2.25	1.00	0.00	0.00	0.00	11.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.50	0.50	0.50	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	2.50
Dana Furgerson	Field hrs:	0.00	0.00	2.50	0.00	0.00	1.25	0.00	1.00	1.13	1.00	0.00	0.00	0.00	6.88
	Travel & Extra Vol. hrs:	0.00	0.00	0.50	0.00	0.00	0.50	0.00	0.50	0.50	0.50	0.00	0.00	0.00	2.50
Rick Ahrens	Field hrs:	0.00	3.00	0.00	0.00	0.00	0.00	2.50	2.00	2.25	2.00	0.00	0.00	0.00	11.75
	Travel & Extra Vol. hrs:	0.00	0.50	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.00	0.00	0.00	2.50
Dennis Deck	Field hrs:	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Emily Steele	Field hrs:	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
	Travel & Extra Vol. hrs:	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Jo von Hippel	Field hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Connie Morehouse	Field hrs:	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
John Morehouse	Field hrs:	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Dan Hagen	Field hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	2.00	0.00	0.00	0.00	4.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	1.00
Susan	Field hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	0.00	0.00	2.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.50
Meagan	Field hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	0.00	0.00	2.25
	Travel & Extra Vol. hrs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.50
Total field hours:															127.38
Total volunteer hours: *															165.13

Notes:

- * Volunteer hours Volunteer hours include hours in the field, travel time to and from the site, and preparation time. Travel time was estimated at 15 minutes each way.
- Volunteer hours on "3/29/15" include prep, travel, and meeting times occurring before that date.
- Volunteer hours on "10/23/15" include report preparation times occurring after that date.