

**4<sup>th</sup> of July BUTTERFLY COUNTS**  
**1984-2014**  
**CAL-WOOD EDUCATION CENTER**  
**Jamestown, Colorado**  
**By Janet Chu**



**Parnassian nectaring on Nine-bark**



**Melissa Blues – prenuptial males puddling**



**Common Ringlet on Hymenopappus**

*Photos by Janet Chu*

## Abstract

Butterfly species and individuals have been recorded during a single-day annual count at the Cal-Wood Education Center, Jamestown, Colorado, for 30 consecutive years. Large white Rocky Mountain Parnassian (*Parnassius smintheus*) butterflies are observed every year. Queen Alexandra's Sulphur (*Colias alexandra*), Common Ringlet (*Coenonympha tullia ochracea*) and Garita Skipperling (*Oarisma garita*) were seen 29 of the 30 years. Cumulative numbers of species recorded on the 4<sup>th</sup> of July Counts is 108. The average number of species is 39 per day, with the greatest number, 83, found in 2003. The lowest July 4 temperatures of 60-65 °F occurred in 1993 and 1995, when snowflakes blew onto us from peaks to the west. The highest temperatures during the counts were 86-88 °F in 2001. The greatest number of participants, both adults and children, was 68 in 2008. These data are forwarded to national North America Butterfly Association to be tabulated for the purposes of noting trends, dispersal of species, habitat conditions and conservation status of reporting areas. These are published in the NABA Butterfly Counts Reports annually.

## Acknowledgments

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Written July, 2014 by Janet Chu

## Cal-Wood Education Center Butterfly Counts

This year, 2014, will be the 30<sup>th</sup> annual Cal-Wood Count. During the past 30 years, 1984 through 2014, butterfly individuals and species have been counted annually at the Cal-Wood Education Center. During the 4<sup>th</sup> of July week one-day counts occur in 359 areas in North America. The results are tabulated for the purposes of noting trends, dispersal of species, habitat conditions and the conservation status of reporting areas.

Each year the annual published *Butterfly Count Report* includes the following information, in addition to the butterfly data: participant lists, description of the location of the count circle and its center, elevation, habitat, land uses, imminent threats, changes noticed since last year, and field notes. Names of butterflies are the 2012 species names which Paul A. Opler continues to provide. Historically, narrative comments were mailed to Paul A. Opler, International Co-Editor who then published the *Xerces Counts, 1985 – 1995*. In 1996 the count reporting became The 22<sup>nd</sup> *Annual NABA-Xerces Fourth of July Butterfly Count*, with North America Butterfly Association (NABA) assuming the publishing process, and Xerces Society lepidopterists continuing to be regional editors for scientific accuracy. From 1998 to the present time its name has become the *NABA Fourth of July Butterfly Count*. Ray E. Stanford continued many years in his respected role as Rocky Mountain Regional Editor until moving to Oregon. Lynn Monroe has graciously taken on this reporting. Observations pertaining to the region are included in this report to enhance the annual Cal-Wood reports. Editors' comments follow the shortened name (Ed.)

Specifically, this count occurs at the Cal-Wood Education Center located near Jamestown in Boulder County, CO (40° 9' N, 105° 22' W). Its center is the Calvert Lodge. The elevation of the count area is 7686 – 7930 ft. / 2365 – 2440 m. The Cal-Wood meadows, two artificial ponds, High Point, Overlook toward the old Balarat mining camp; the Geier meadow adjacent to County Road 87 between Balarat Outdoor Ed Center and Cal-Wood, Buckingham Park, and Button Rock 'Preserve' are the usual count sites within the prescribed 7 ½ mile radius from the Lodge. Button Rock Road, Lyons is off CO Hwy 80. In September 2013, severe flooding kept us from accessing both Button Rock, and Buckingham Park in 2014; instead we counted at the Red Gulch, Heil Valley Ranch Open Space (within the count area).

Cal-Wood is a stable 1,200 acres with a Conservation Easement placed on the entire area with Boulder County Parks and Open Space. The development rights were sold to the county, but the present use for environmental education, intelligent forestry practices and conservation teaching continue. Cal-Wood has few hiking trails and no collection of materials for arts and crafts. Cal-Wood Ranch was previously used as open range for cattle grazing before the '60s, but now generally is foraged only by elk and deer. The uniqueness of this habitat includes its large meadows within a Ponderosa Pine (*Pinus ponderosa*) forest and an intermittent stream. Other trees included within the count area are Quaking Aspen (*Populus tremuloides*), and Rocky Mountain Juniper (*Sabina scopulorum*). The main threat to this habitat is fire. Formerly cattle from a neighboring ranch cut the vegetated banks causing exposed dirt around the springs and ponds. Now this threat has been removed since Heil Valley Ranch is a Boulder County Open Space.

Counts began as family outings and now enlist 35-60 volunteers. Interested adults and children join lepidopterists who teach about life cycles, tell nature stories and provide identification for the momentarily netted butterflies. These butterflies are released alive.

The average number of species over 30 years is 39 per the single day during 4<sup>th</sup> of July Count at Cal-Wood. A review of records shows that Cal-Wood had the National High Count for the following individual species:

<i>Parnassius smintheus</i>	Rocky Mountain Parnassian	1999, 2000, 2003, 2005, 2007, 2008, 2011, 2013
<i>Papilio eurymedon</i>	Pale Swallowtail	2008
<i>P. indra</i>	Indra Swallowtail	2010, 2011, 2013
<i>Colias alexandra</i>	Queen Alexandra's Sulphur	1991, 1999
<i>Callophrys affinis</i>	'Canyon' Bramble Hairstreak	2002, 2005, 2008, 2012, 2013
<i>Euphilotes enoptes ancilla</i>	Rocky Mountain Dotted Blue	1996, 2010, 2011, 2013
<i>Speyeria edwardsii</i>	Edwards' Fritillary	2004, 2007, 2010, 2011
<i>Speyeria hesperis</i>	Northwestern Fritillary	2012
<i>Speyeria callippe</i>	Callippe Fritillary	2013
<i>Polydryas arachne</i>	Arachne Checkerspot	2006
<i>Limenitis weidemeyerii</i>	Weidemeyer's Admiral	2003
<i>Erebia epipsodea</i>	Common Alpine	1995, 2008
<i>Oeneis chryxus</i>	Chryxus Arctic	2010
<i>O. uhleri</i>	Uhler's Arctic	2010, 2011, 2013
<i>Erynnis persius</i>	Persius Duskywing	1991, 2007
<i>Piruna pirus</i>	Russet Skipperling	2007, 2010, 2011, 2012
<i>Hesperia pahaska</i>	Pahaska Skipper	2002
<i>Paratrytone snowi</i>	Snow's Skipper	2007, 2012, 2013
<i>Polites draco</i>	Draco Skipper	1984, 2008, 2010, 2011
<i>Poanes taxiles</i>	Taxiles Skipper	2007, 2012

*The 2014 NABA Report will be published in Spring 2015.*

The following butterfly has been seen every count 1984-2014:

*Parnassius smintheus* — Rocky Mountain Parnassian

The following were present in all except one count:

*Colias alexandra* — Queen Alexandra's Sulphur

*Coenonympha tullia ochracea* Common Ringlet

*Oarisma garita* — Garita Skipperling.

The following butterflies were present, except for 3-6 counts:

*Colias eurytheme* — Orange Sulphur

*Papilio eurymedon* — Pale Swallowtail

*P. rutulus* — W. Tiger Swallowtail

*Plebejus lupinus lutzi* — Lupine Blue

*P. icarioides* — Boisduval's Blue

*Euptoieta claudia* — Variegated Fritillary

*Vanessa cardui* — Painted Lady

*Erebia epipsodea* — Common Alpine.

Rare butterflies of special concern have been observed and listed for this area on the Colorado Natural Heritage Watch List - Hops Azure (*Celastrina humulus*), Arogos Skipper (*Atrytone arogos*), and Snow's Skipper (*Paratrytone snowi*.)

**Annual narrative reports given to national recorders were written as follow:**

**July 4, 1984:**

During this first year we found Waxflower (*Jamesia americana*) in full bloom. Larkspur (*Delphinium* sp.), Harebell (*Campanula rotundifolia*), Britton's Skullcap (*Scutellaria brittonii*), Columbine (*Aquilegia coerulea*) and many grasses also in bloom.

**July 29, 1985:**

The land has not been grazed since 1965, but cattle stray in during the fall. A newly discovered spruce budworm population is causing serious damage to fir trees below the count area. One acre looks like clear-cutting has occurred as a result of the removal of budworm-killed trees and additionally, efforts are being made to provide better firebreaks. There are fewer flowers in bloom than in 1984 with only Blanketflower (*Gaillardia aristata*) and Sunflowers (*Helianthus* sp.) noticeable. This is likely because the count is 25 days later. It was much drier this past spring and the habitat continues to look dry. There were only three appreciable snowfalls this past winter. Anise Swallowtail (*Papilio zelicaon*) was nectaring on Lemon Puccoon (*Lithospermum multiflorum*).

**July 26, 1986:**

The land and plants are preserved for conservation education. On the 1,040 acre Cal-Wood Ranch, Ponderosa Pine and Douglas-Fir (*Pseudotsuga menziesii*) are being selectively cut. The Ponderosa Pine stand is in the Montane zone surrounding a large meadow and high rocky granite outcrop. The neighbor rancher's cattle and spruce budworm continue to be threats to the otherwise stable environment. Waxflower (*Jamesia americana*), a favorite nectaring plant, is past blossoming, and late-flowering Timothy (*Phleum pretense*) frames the path. The past 2-½ weeks have seen cloudy, rainy weather each day which usually lowers the numbers of butterflies emerging from chrysalids.

**July 3, 1987:**

There are many blossoming plants including Stonecrop (*Sedum lanceolatum*), Waxflower (*J. americana*), *Potentilla* sp. and *Castilleja* sp. Abundant moisture provides for the growth of especially tall grasses. Conservation Status: Cal-Wood is a stable site with Outdoor Education, Nature Study, and selected cutting of timber. This land is covered by unique large unmowed meadows.

**July 4, 1988:**

Blossoming Stonecrop (*S. lanceolatum*), Sulfur-flower (*Eriogonum umbellatum*), Blanketflower (*G. aristata*), *Potentilla* sp., Yarrow (*Achillea lanulosa*), and Sun Spot (*Viguiera multiflora*) composites. The driest winter in ten years is apparent in the dry grasses and curling Golden Banner (*Thermopsis divaricarpa*). Thousands of Ladybug beetles (*Hippodamia convergens*) were flying at the craggy outcrop along with hilltopping Swallowtails (*Papilio* sp.) and Chryxus Arctics (*Oeneis chryxus*). This Outdoor Education site is being well managed which maintains ground cover and extensive unspoiled habitat.

**July 1989:** Many dead Ponderosa Pines line the meadow adding to the always present fire danger. On July 8-12, a 2,000-acre fire destroyed 58 homes, just 10 miles south of Cal-

Wood. A Rocky Mountain Parnassian (*P. smintheus*) was observed laying two eggs on two different twigs near Stonecrop (*S. lanceolatum*), its host plant.

#### **July 4, 1990:**

*Schinea masoni* moth rested camouflaged on Blanketflower (*G. aristata*); *Megachile* sp. Bee and *Bombus* sp. Bumble Bee were flying. More and taller grasses this year hid the fewer blossoms. There was noticeably less puddling of the blues by the pond. The land is in stable condition, but fire danger is always present.

(Editor Ray E. Stanford wrote, “*O. chryxus* were flying in about average numbers, in this locality, occurring only in even numbered years.” Western White (*Pontia occidentalis*), Pacuvius Duskywing (*E. pacuvius*) and Long Dash (*P. mystic*) are new for this count, although they may have been observed in earlier years as ‘unidentified *Pieridae*’ or ‘unid. *Hesperiidae*’. There have been no new Boulder County species records in many years, and with 182 species, not many more will ever be found.)

#### **July 3, 1991:**

Many tall grasses and fewer blossoms were noticed. There were many puddling blues near the upper pond. We compared smaller-sized worn immigrant Painted Ladies (*Vanessa cardui*), and larger-sized freshly hatched ‘P L’s. One caterpillar (moth?) on Penstemon sp., with lengthwise black and white stripes and orange feet surprised us. Canadian Thistle (*Brexa arvensis*) hosted a caterpillar inside a single layer of web. Two species, Reakirt’s Blue (*Echinargos isola*) and Common Checkered-Skipper (*Pyrgus communis*), were identified on the count for the first time, raising the 8-year total to 63+ species.

(Ed. It was generally a better than average season in the Rocky Mountain region, with abundant moisture, birds, wildflowers, and yes, billions of ‘millers’ (*Euxoa auxiliaries*) everywhere. Most butterfly species had good flights at the normal time. Weather patterns were typical in most parts of the Zone, with sunny mornings and cloudy, rainy afternoons throughout the summer. So many Painted Ladies were nectaring on Rabbitbrush (*Chrysothamnus nauseosus*) on 23 September in the Denver area that the flowers appeared orange-and-black rather than yellow! Had it not been for the terrible freeze of 27-31 October and several subsequent major snow storms, we probably would have seen them still flying on Christmas. The Ladies must, however, yield one impressive statistic; only 580 of them were counted officially, compared with 2971 cabbage whites (*P. rapae*); 2,834 of them were seen on a single count at High Line Canal, CO.)

#### **June 27, 1992:**

Common Alpine (*Erebia epipsodea*) was nectaring on a ‘Bistort’ plant. This was the most disappointing count because cloudy weather turned to a thunder and lightning storm by 11:30, which cut our count time. This seemed to be a season with flowers blooming later than usual. (Ed. It was quite a wet season in the Rocky Mountain region, so most count results were not as high as usual. Many species flew one or more weeks late.)

#### **July 4, 1993:**

It was so chilly we found not one butterfly hilltopping on our favorite 8,000 ft. High Point rocky knoll. Parnassian (*P. smintheus* unusually new and yellowish on ventral surfaces of wings) was ovipositing on Stonecrop (*S. lanceolatum*). Snow’s Skipper (*Paratrytone snowi*) placed at a Colorado Natural Heritage Program State Ranking of S3, indicating it is rare with 20-100 known populations, is a new species for this count. Thirteen Woodland Skippers (*Ochlodes sylvanoides*) flying early in a wet, delayed flight season is highly unusual.

Screaming drew our attention to the tunnels in the dry sedge and to our surprise; a wandering garter snake caught a meadow mouse below our feet. Dusky Grouse, male, female, and one chick scurried from the grass. This was a later season in the mountains, with 3-5" of fresh snow July 3 on mountain passes and flakes blowing over onto us. Fewer outdoor education classes were offered for children because of increased usage by adults, who stay nearer the lodge and cabins; this seemed to allow the trails to fill in with herbaceous plants.

#### **July 4, 1994:**

The land is used mainly for Conservation Education, with increased adult usage and fire protection education. Flowers were not as numerous as they usually are on July 4. Sulfur-flower (*E. umbellatum*), Mariposa or Sego Lily (*Calochortus gunnisonii*), Stonecrop (*S. lanceolatum*), and *Rudbeckia* sp. were in bloom, however grasses were yellowish and very dry. High fire danger was present caused by the hottest June on record. There has been less usage of trails illustrated by a nest of Vesper Sparrows with 4 young in bunch grass, just two feet from the main trail to the Calvert Lodge. Mormon crickets (*Anabrus simplex*) - green 'solitary type' male, brownish-green male, and a brownish-green female were lifted up from the thick grass in the upper Cal-Wood meadow.

#### **July 4, 1995:**

(Ed. The Western Pine Elfin was unlikely this late in the season. In fact another individual was never seen again on the Cal-Wood count). [P.S. In 1983 Cal-Wood had the highest national count of Pine Elfins! Jan]. We noticed minor erosion due to very heavy spring rain. The day was discouragingly cold and wet with sleet flying in our faces at noon. June 29 and June 30 had the lowest maximum daytime temperatures on record for those days. We saw a weevil, and *Meloidae* sp. blister beetle.

#### **July 4, 1996:**

Warmer air brought the butterflies flying up into the air. Rocky Mountain Dotted Blue (*Euphilotes enoptes*) and Chryxus Arctic (*O. chryxus*) were present in record high numbers this year. Meadows are undisturbed except for occasional neighbor's cattle.

#### **July 4, 1997:**

#### **July 4, 1998:**

Insects noted by Michael Weissmann were *Shinia masoni* (*Noctuidae*) moth, (*Arctiidae*) Tiger Moth, *Bombyliid* Flies, Checkered Beetle, 8-spotted Dragonfly, 2 'introduced' Beetle larvae (*Anabrus simplex*) on thistle.

#### **July 3, 1999:**

The land continues to be used for adult education as illustrated by vegetation on trails and more grasses noticed beside the trails. The greatest number of species, 40, ever recorded for this count occurred today, thanks to the several experienced lepidopterists. Previous high numbers were 37 species in 1991 and 35 in 1994. The cumulative number of species recorded for 16 years is 75. Ray Stanford saw a Cloudless Sulphur (*Phoebis sennae*) fly a straight line past us at the High Point. Tawny-edged Skipper (*Polites themistocles*) and Mottled Duskywing (*Erynnis martialis*) were observed for the first time ever. Ray Chu's badminton stroke netted 3 species of Swallowtails and one Fritillary species on top of the High Point. Several Mormon crickets were burrowing in the grass blades and one example of the *Arctiid* moth (*Estigmene acrea*) was found.

(Ed. 1999 was another good year for butterflies in the central Rockies, with a wet winter and spring followed by a warm, dry summer. Nine of 10 counts were on mostly sunny, warm days, and none had to be rescheduled.)

#### **July 4, 2000:**

Grasses are very dry and crisp. There are many Sulfur-flowers (*E. umbellatum*) in full bloom; Harebells (*C. rotundifolia*) have only one or two weak blossoms per stalk. Gumweed (*Grindelia squarrosa*) is already beginning to bloom early; one Rabbitbrush (*C. nauseosus*) is in full bud ready to bloom. A Boisduval's Blue was chasing a white moth. One inchworm larva of a moth and 14 of our favorite 'apricot' moths were noted. *Hesperia colorado* was thought to have been caught near the High Point, but Paul Opler and Editor Ray Stanford question this, because 'it's likely too early for it to fly'. They suggested these might be *H. pahaska* on the hilltop. Our photos were not good enough to ID. This butterfly is called *H. comma* in the *NABA Butterfly Counts*, but our species is *H. colorado*.

The single-person footpath is now two-persons wide, since the Outdoor Education program for school-age children has been revived. Fire always poses a threat and three large fires on the Front Range have occurred so far this year.

(Ed. Spring and summer were hot and dry, so the season was several weeks advanced and poor for butterflies in the Southern Rocky Mountain region. Forest fires raged most of the summer. *Phoebus parnassian* is being renamed *P. smintheus sayii*; Bramble Hairstreak to *Callophrys apama homoperplexa*. Species total of 41 ties the record in 1999. The cumulative total for 16 years is 78 species. New in year 2000, are the Nais Metalmark (*Apodemia nais*), Mormon Fritillary (*Speyeria mormonia*) and Viceroy (*Limenitis archippus*). The season is very advanced with Sulphur flowers (*E. umbellatum*) in full bloom and Harebells (*C. rotundifolia*) nearly past bloom. Most grasses were already dry and brown.

#### **July 4, 2001:**

Fire is an imminent threat to habitat because of the extreme drought. There was one 400 sq.yd. burn caused by lightning close to the High Point where we watch hilltopping each July. It was extinguished by the alert Cal-Wood staff members. However we were treated to the most beautiful bloom of flowers we have ever seen. The Geier Meadow continues to be outstanding. Queen Alexandra's Sulphurs (*C. alexandra*) were observed mating. A hen Dusky Grouse and four chicks ran and huddled nearby.

(Ed. Species total is 2 fewer than in 1999 or 2000. Total over 18 years is 80 species. New in 2001 are the Pipevine Swallowtail (*Battus philenor*) and the Mexican Yellow (*Eurema mexicana*), both visitors from the south. Spring was wet, but summer was again dry, with several serious forest fires in the Rockies.)

#### **July 4, 2002;**

The imminent and real threat to Cal-Wood is fire. There are eleven major fires burning in Colorado resulting from severe drought. All Denver metro is on watering restrictions. There have been 14 days above 90 ° F so far.

(Ed. A new high of 42 species was reported, barely more than 41 in 1999 and 2000, and new high numbers of individuals for 4 other species. Four new species for the count raise the 19-year total to 84. These figures fly in the face of the severe drought in 2002 throughout Colorado, and reflect the experience and perseverance of the counters!)



One pair each of Rocky Mountain Dotted Blue (*E. enoptes*) and Boisduval's Blue (*P. icarioides*) were observed mating. *Shinea masonii* moth was camouflaged on the Gaillardia blossom. There were only a few species of flowers in bloom – mainly Stonecrop (*S. lanceolatum*), Waxflower (*C. fendleri*), Blanketflower (*G. aristata*), Sulfur-flower (*E. umbellatum*), Mariposa (*Calochortus gunnisonii*) and a Foothill penstemon sp. Two families of Western bluebirds with fledglings were flying about the nest boxes and Brewer's Blackbirds and Crossbills were observed.

(Ed. 2002 was the most severe drought year since 1935, and extended the regional drought to nearly a decade. Over 1 million acres of forests were destroyed by fires in this southern Rocky Mountain region [Colorado, Utah, and Nevada] this year. A total of only 103 butterfly species are reported this year, the lowest since the mid 1970's, when there were only two counts. Despite the extreme drought, there were 22 new highs for individual totals, at least one in each of the six counts. Only six? (four) species were recorded from all 6 counts, confirming the extreme variation in the region this year: Cabbage White (*Pieris rapae*), Melissa Blue (*Plebejus melissa*), Field Crescent (*Phyciodes pulchella*) and Taxiles Skipper (*Poanes taxilus*). Average species per count was 40 [43 in 2001, 39 in 2000, and 36 in 1999]. The total of 2691 individuals is a dramatic drop from last year's 13,441 individuals, 123 per party-hour.)

**July 4, 2003:** 20<sup>th</sup> Anniversary of the Cal-Wood 4<sup>th</sup> of July Count. This Anniversary year we included in the count area, Button Rock Reservoir, N. Foothills Hwy 36 toward Red Hill, Lyons Quarry to Ferncliff. Yucca Prairie, Riparian, Montane, Foothills were in the 7.5 mile radius count area.

Mating dotted blues were observed on Sulphur-flower (*E. umbellatum*). A mating pair of (*P. lupini lutzi*) was noted. Eight *Lycomorpha pholus* (lichen moth) were stuck to flowers of *Asclepias speciosa* (5 dead, 3 unglued by us so they could fly). Mistletoe is invading Ponderosa Pines after 3 years of severe drought. Fire is a threat because grass is so tall. 5" of snow March 18, and ground remained cold and wet, so butterflies are flying later. Flowers are magnificent.

National high number of individuals for a species: Rocky Mountain Parnassian (*P. smintheus*) 110; Weidemeyer's Admiral (*Limenitis weidemeyerii*) 47.

**July 1, 2004:**

Flowers were abundant. There were fewer than half the number of butterfly species when compared with the 87 in 2003. A 6,000 acre Overland Fire occurred on adjacent lands including the Balarat Outdoor Education property, in late summer 2003, so early successional growth of grasses was observed this year. Forest thinning and weed-eradication have occurred recently.

National high number of individuals for a species: Edwards' Fritillary (*S. edwardsii*) 2.

**July 4, 2005:**

Colorado had enough winter rain to produce a good wildflower season. At Cal-Wood, May moisture produced plenty of grasses, though flowers were not spectacular. *Schinia masoni* was noted on *Gaillardia*.

Several new high individual totals this year for Pale Swallowtail (*P. eurymedon*) 27; Field Crescent (*P. pulchella*) 44; Garita Skipperling (*O. garita*) 72; Green Skipper (*H. viridis*) 2; Long Dash (*P. mystic*) 21; Reakirt's Blue (*E. isola*) 16; W. Tailed Blue (*C. amyntula*) 8,

Rocky Mountain Dotted Blue (*E. ancilla*) 278. With the addition of the Green Skipper, the cumulative species total for the Cal-Wood 4<sup>th</sup> of July Counts is 108.

National high number of individuals for a species: Rocky Mountain Parnassian (*P. smintheus*) 74; Canyon Bramble Hairstreak (*Callophrys affinis homoperplexa*) 18.

#### July 4, 2006:

In Colorado this year's weather was not conducive to butterflies. In Boulder, the winter was dry with less than 2/3 the average snowfall, capped by strong, relentless winds the last week of March. Both April and May were much warmer and drier than average, and no other April-May combination has been this warm and only 5 other 2-month combinations have been this dry. June continued the pattern, with the first 21 days being 8° F warmer than usual and bringing only 0.3 inches of rain. Although the first half of July was cool and wet, July became the fifth consecutive month with above-average temperatures. These weather patterns directly affected both host and nectar plants. Extreme drought last year produced fewer blossoms, with some important nectar plants in short supply. There occurred 19 days above 90 ° F in June in the Denver area, plus extreme, record-setting drought. Moths seen: *Schinia masoni* on *Gaillardia*; *Heliothis phloxiphagur*; *Xanthotype crocea*.

Migrant butterflies from the south, such as Red Admiral (*Vanessa atalanta*), Painted Lady (*V. cardui*), Dainty Sulphur (*Nathalis iole*) and Variegated Fritillary (*Euptoieta claudia*) were almost nonexistent, possibly owing to prolonged drought in the states south of us. Ray Stanford reported that this summer was the worst for butterflies that he had ever seen in the Western states.

National high for a species: Arachne Checkerspot (*Polydryas arachne*) 2.

#### July 4, 2007:

There were so many experienced lepidopterists that the identification of butterflies was outstanding. This was the largest single day species count (73) on record for Cal-Wood. Eight new species were recorded: Southern Dogface (*C. cesonia*); Sleepy Orange (*E. nicippe*); Thicket Hairstreak, (*C. spinetorum*); Marine Blue (*L. marina*); American Snout (*L. carinenta*); Satyr Comma (*P. satyrus*); Common Buckeye (*J. coenia*); Sachem (*A. campestris*). Migrants from distant areas were: Dainty Sulphur (*C. iole*); Variegated Fritillary (*E. claudia*); Monarch (*D. plexippus*).

(Ed. Lynn Monroe wrote -Those underlined species above were southern migrants which also showed up in Rocky Mountain National Park, where they had not been seen before. The result of the winter snows was a lush landscape with wildflowers and early plant growth incredibly abundant and luxuriant). In January four feet of snow covered Cal-Wood and heavy rains drenched the area in April. Foothills populations were sparse. This author observed many days of strong winds from the south-southeast carrying these migrants above! The *E.umbellatum* was in full bloom and numerous.

Snow's Skipper (*P. snowi*) is on the state watch list for rare butterflies. These were found in the Geier Meadow. Immatures found were: *P. rutulus* caterpillar (2<sup>nd</sup> instar); *C. alexandra* egg; *C. eurytheme* egg; *E. claudia* egg on cheese mallow. Mating pairs noted were the Common Checkered-skippers (*P. communis*) 2; Queen Alexandra's Sulphurs (*C. alexandra*); Variegated Fritillary (*E. claudia*). National high listed for the maximum number of individuals: Rocky Mountain Parnassian (*P.smintheus*) 38; Rocky Mountain Dotted Blue (*E. enoptes*) 156; Edwards' Fritillary (*S. edwardsii*) 1; Persius Duskywing (*E. persius*) 19; Russet Skipperling (*P. pirus*) 8; Snow's Skipper (*P. snowi*) 7; *Taxiles Skipper* (*P. taxiles*) 28.

**July 4, 2008:**

There was fire danger because of dryness. In June there were 25 days without a drop of rain. Some spraying of herbicide had occurred in small areas especially for Canada Thistle (*Breca arvensis*).

National high listed for the maximum number of Rocky Mountain Parnassian (*P. smintheus*) 110; Pale Swallowtail (*P. eurymedon*) 63; Canyon Bramble Hairstreak (*C. affinis homoperplexa*) 39; Common Alpine (*E. epipsodea*) 48; Draco Skipper (*P. draco*) 4. The Delaware Skipper (*Anatrytone logan*) and Arogos Skipper (*Atrytone arogos*), usually associated with tall-grass prairies were special sightings.

**July 4, 2009:**

May began a 3-week dry spell, followed by June, the second wettest month on record with no temperatures above 90° F. July 4 was chilly 61-67° with light rain midday. Eight *Schinia masoni* moths were seen on *Gaillardia* blossoms. Many Ponderosa Pines have been cut to remove mistletoe infestation, therefore opening more meadows.

**July 2, 2010:**

Numerous blooming flowers this summer resulted in high numbers of species of Julia Orangetip (*Anthocharis julia*), Hackberry Emperor (*Astrocampa celtis*), Uhler's Arctic (*O. uhleri*). New species for this count Mexican Yellow (*Eurema mexicana*). Chryxus Arctic (*O. chryxus*) appears only on even numbered years. 62 species.

National high for maximum number of individuals in a species: Indra Swallowtail (2); Rocky Mountain Dotted Blue (33); Edwards' Fritillary (1 -tied with Gilpin Count); Chryxus Arctic (41); Uhler's Arctic (1) Russet Skipperling (2); Draco Skipper (2).

**July 4, 2011:**

Hops Azure was laying egg on Hops vine; Monarch 1 egg and 2 caterpillars on milkweed (*Asclepias speciosa*).

National high for individual butterflies found on Cal-Wood were Rocky Mountain Parnassian (67); Indra Swallowtail (9); Edwards' Fritillary (5); Common Ringlet (340); Common Alpine (75); Uhler's Arctic (35); Russet Skipperling (11); Garita Skipperling (70).

**July 4, 2012:**

Seventeen days above 90 and seven days above 100° F in Denver caused it to be the hottest, driest June on record and in Boulder County resulted in blossoms of reduced sizes and numbers. However, butterflies were active in the moist riparian shallow canyon where *Monarda fistulosa* was in full bloom. 63 species was actually a good count. A Monarch had laid two eggs on milkweed (*A. speciosa*). Two *Schineia masoni* moths were resting camouflaged on *Gaillardia* blossoms.

National high for individual species: Northwestern Fritillary *Speyeria hesperis* (41), Russet Skipperling *Piruna pirus* (4), Snow's Skipper *Paratrytone snowi* (2), Taxiles Skipper *Poanes taxiles* (8).

July 4, 2013: "Cal-Wood fielded the most observers with 52", wrote the NABA 2013 Report.

Four new species were added to the Cal-Wood Count: Striped Hairstreak, Nais Metalmark, Northern Cloudywing and Juba Skipper. Painted Lady pupa on thistle, Monarch 3 eggs on milkweed. Butterflies were generally scattered, but some congregated in a long grass full of

*Monarda* blossoms. The year started out with threats of a severe drought and wildfires for the second year in a row. By the end of March the snowpack was 78% of normal. April proved to be a snowy month extending into early May. May 1-2 brought about 12 inches of snow with a low temperature of 17 degrees, the lowest May temperature ever recorded in Boulder, which came just as trees and shrubs were about to bloom. This severe weather affected butterflies adversely. Summer species were able to survive the very late spring and were flying although in low numbers. Gilpin and the Cal-Wood counts were able to find about 70 different species of butterflies.

July 4, 2014:

Two Boisduval's Blues caterpillars were hidden inside Lupine leaf tent; Persius Duskywing caterpillar in Golden Banner leaf tent. Cal-Wood's flood damage did not affect the count, but grasses were very tall because of much moisture, hiding some flowering blossoms. *Schinea masonii* on *Gailardia pinnatifida* (15), *Lycomorpha pholus* Lichen Moth (9), Mule Deer (2), Beaver (2), Dusky Grouse family, Chipmunk, Wandering Garter Snake, Cotton Tail Rabbit.

### Count Records:

Count records follow with species names, both scientific and common, and the numbers of individuals sighted. Each number for individuals in **boldface** type is the highest count recorded nationally for a species. The cumulative list of butterflies has been recorded since Xerces Counts began at Cal-Wood in 1984.

1. In 2003 a butterfly was incorrectly identified as a Mylitta Crescent (*Phyciodes mylitta*). This was corrected to a Pale Crescent (*Phyciodes pallida*) and all previous records were replaced.
2. 'alba' refers to the alba form of the *Colias eurytheme* or *C. philodice* with much white replacing the yellow scales on the female. Separation of the actual species in the field is not possible. This report lists "alba" as eurytheme.

Butterfly Count Summary		1984-2014	Each number for individuals in boldface is a national high count.												
			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	PAPILIONIDAE	Swallowtail sp.	4-Jul	4-Jul	4-Jul	3-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul
1	Parnassius smintheus	Rocky Mtn Parnassian	15	15	3	31	37	90	25	36	1	3	2	1	30
2	Battus philenor	Pipevine Swallowtail													
3	Papilio eurymedon	Pale Swallowtail	5	2		12	6	11	1	4	1		4		12
4	P. indra	Indra Swallowtail					1								
5	P. multicaudata	Two-tailed Swallowtail					2	2					2		
6	P. polyxenes	Black Swallowtail	1			3	2	2	3	4			1		
7	P. rutulus	W. Tiger Swallowtail	4	2		3	3	9	1	1			4	2	6
8	P. zelicaon	Anise Swallowtail	3	1	2	3	2		5						2
9	P. sennae ebule	Cloudless Sulphur (Eastern)													
	PIERIDAE	Whites/Sulfurs													
10	Neophasia menapia	Pine White				1	1	3		2					
11	Pontia occidentalis	Western White							12						
12	P. protodice	Checkered White	2			3	2			2	3	1	4		
13	Pieris napi	Mustard White	2												3
14	P. rapae	Cabbage White	3					1		1					5
15	Anthocharis julia	Julia Orangetip													
16	Euchloe ausonides	Large Marble						5		3	2			5	17
17	Zerene cesonia	Southern Dogface													
18	Colias alexandra	Queen Alexandra's Sulphur	28	9	20	45	23	48	30	<b>25</b>	16	6	46		74
19	C. eurytheme	Orange Sulphur	2	21	2/1alb	9	3	4	2	4	7	7	9		11
20	C. philodice	Clouded Sulphur	1	1		4			4				27	1	
21	Phoebis sennae	Cloudless sulphur													
22	Eurema mexicana	Mexican Yellow													
23	Nathalis iole	Dainty Sulphur													
24	Abaeis nicippe	Sleepy Orange													

	1997	1998	1999	2000	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	2014
<b>Swallowtail sp.</b>				4-Jul	4-Jul	4-Jul	4-Jul	1-Jul	4-Jul	4-Jul	4-Jul	4-Jul	4-Jul	2-Jul	4-Jul	4-Jul	4-Jul	July 4
Rocky Mtn Parnassian	77	48	314	136	60	75	110	21	74	8	38	110	11	7	67	4	249	101
Pipevine Swallowtail					1													
Pale Swallowtail	11		9	9	1	5	20	11	27	4	1	63		10	24	2	57	13
Indra Swallowtail							20		1			7		2	9		3	2
Two-tailed Swallowtail		2			2	2	16		9	21	20	13		10	7	30	12	2
Black Swallowtail	2			2	4	5	10				6	10		2	2			
W. Tiger Swallowtail	5		3	1	5	3	42	9	5	3	13	34		7	22	10	46	2
Anise Swallowtail	3		6		1		3	1	4			8		2	3	1	4	
<b>Whites/Sulfurs</b>																		
Pine White							1											
Western White	1		3			1	29			1	2	2		4				1
Checkered White	3	4			75	5	77	2	43	2	36	15	1	36		2	3	3
Mustard White							4			1							1	
Cabbage White			3	2	1	3	422	19	37	8		36	269	34	77	47	253	201
White sp.					12		20	13	15		9	33			24	7	16	
Julia Orangetip							1							1				
Large Marble	1	11					17	3	11			8	3	8	11		5	4
Southern Dogface											2	1						
Queen Alexandra's Sulphur	4	21	63	104	51	20	12	21	25	34	33	62	6	22	129	62	55	15
Orange Sulphur	11/2alb		22	7/1alb	105/1alb	9	76	4	49		69/5alb	8		25/3alb	4	117	39	86
Clouded Sulphur	2	5	6		10	9	23	15	2	3	38	39		5	2	66	27	8
Cloudless Sulphur			1		1													
Mexican Yellow					1		1							3				
Dainty Sulphur			1		6	1	1		3		6			8	1	3	2	
Sleepy Orange														1				
Sulphur sp.					16			13	27	1	8			27	17	24	37	

			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<b>LYCAENIDAE Coppers</b>															
25	Lycaena dione	Gray Copper													
26	L. heteronea	Blue Copper	5	5	2		16	3	5				6		
27	L. rubidus	Ruddy Copper			25										
28	L. hellouides	Purplish Copper			2										
<b>LYCAENIDAE Hairstreaks</b>															
29	Satyrium behrii	Behr's Hairstreak					2						2		4
30	S. californica	California Hairstreak													
31	S. titus	Coral Hairstreak													
32	S. liparops	Striped Hairstreak													
33	S. saepium	Hedgerow Hairstreak			2										
34	Callophrys affinis homoperplexa	Canyon Bramble Hairstreak					5	3	1	6			1	5	
35	C. eryphon	W. Pine Elfin												1	
36	C. gyrneus siva	Siva Juniper Hairstreak					1		1		3				
37	C. spinetorum	Thicket Hairstreak													
38	Strymon melinus	Gray Hairstreak		3	4		4	1	2	2			2		
<b>LYCAENIDAE</b>															
39	Plebejus glandon rustica	Arctic Blue	3			2	11	1			11		5		
40	Echinargus isola	Reakirt's Blue								4					1
41	Leptotes marina	Marine Blue													
42	Cupido comyntas	E. Tailed-blue													
43	C. amyntula	W. Tailed-blue													4
44	Celastrina echo sidara	Echo Azure													
45	C. humulus	Hops Azure													
46	Euphilotes ancilla	Rocky Mtn Dotted Blue		2				4		2	1			1	105
47	Glaucopsyche piasus	Arrowhead Blue					1	4	1	3		2	2		1
48	G. lygdamus	Silvery Blue	2								5			4	
49	Plebejus melissa	Melissa Blue	2	23			3	2	4	19	2	3	1		
50	P. lupinus lutzi	Lupine Blue		8		8	7	9	24	14	7	6	11		4
51	P. icarioides	Boisduval's Blue			11	2	2	25	13	11		10	9	5	13
52	P. saepiolus	Greenish-blue		2	1	6				1	1		1		1
		Blue sp.	18			39				24		3			
53	Apodemia nais	Nais Metalmark													

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	'013	'014
<b>Coppers</b>																		
Gray Copper							1											1
Blue Copper	2			1			5				4	2				9	5	
Ruddy Copper				1	1	2												
Purplish Copper																		
<b>Hairstreaks</b>																		
Behr's Hairstreak			1			2	57	1		1		3			3	1		2
California Hairstreak							1					1						
Coral Hairstreak							11		1		1	1		1		1		
Striped Hairstreak							6					1						
Hedgerow Hairstreak													1			5		
Canyon Bramble Hairstreak				5	3	19	6	2	18	4		39			5	4	19	16
W. Pine Elfin							13	2						2	5		1	
Siva Juniper Hairstreak							28					11		3	35	26	2	
Thicket Hairstreak							3				2	1						
Gray Hairstreak		1			8		3			1	15	5		6	2	11	1	1
Arctic Blue			2	24					13		8	2	7	2	4		1	11
Reakirt's Blue			3	1			3	3	16					1	2		9	10
Marine Blue											2							
E. Tailed-blue						2												
W. Tailed-blue	1		3	1		4			8	2			6	8	26	1		1
Echo Azure														5	2		4	4
Hops Azure							4					3		3	2		1	
Rocky Mtn Dotted Blue		28	30	2	11	27	54	54	278	21	156	129	25	33	356	14	288	157
Arrowhead Blue		3	5								1	5	3	3	1		1	1
Silvery Blue	17		5	2			18	3	3		6	4		3	16		4	6
Melissa Blue			2			2	5		4		17	3		2	13	1	1	7
Lupine Blue	49	32	2	39	15	20	115	28	13	2	19	20	2	8	29	2	8	
Boisduval's Blue	2	44	32	25	26	25	45	10	34	3	10	53	24	48	126	22	48	68
Greenish-blue	2		1		14		2				2	8			17	3		12
Blue sp.						12	30	40	35	11	6	93	2	29	172	3	33	3
Nais Metalmark				1		1	2	2									2	



			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	<b>NYMPHALIDAE</b>	<b>Brushfoots</b>													
54	Euptoieta claudia	Variegated Fritillary	8	1		4	1	2	5	6			1		
55	Speyeria aphrodite	Aphrodite Fritillary	4				1	16					23		6
56	Speyeria a. atlantis	Atlantis Fritillary					1		3						
57	S. hesperis	Northwestern Fritillary													
58	S. mormonia	Mormon Fritillary													
59	S. coronis	Coronis Fritillary													
60	S. callippe	Callippe Fritillary													
61	S. edwardsii	Edwards' Fritillary				4	4	4	1	1			3		
	Speyeria sp.	Fritillary sp.			10							2			
62	Euphydryas anicia	Variable Checkerspot	8	11		5			6	12	2				8
63	Polydryas arachne	Arachne Checkerspot	2		2	4	1	5	7	9					
64	Chlosyne gorgone	Gorgone Checkerspot	9	9	2	2		3						3	
65	C. nycteis	Silvery Checkerspot													
66	C. palla	Northern Checkerspot					1								
67	Phyciodes cocyta	Northern Crescent													
68	P. pulchella	Field Crescent						1	1	9				7	
69	P. pallida	Pale Crescent													
70	P. tharos	Pearl Crescent	4	4					1	3					
71	Polygonia satyrus	Satyr Comma													
72	P. gracilis zephyrus	Hoary Comma	1	1		4	1		2						
73	Junonia coenia	Common Buckeye													
74	Nymphalis antiopa	Mourning Cloak					1	1					2		
75	N. californica	California Tortoiseshell		1		1	2								
76	N. milberti	Milbert's Tortoiseshell		2		1				2				1	
77	Limenitis archippus	Viceroy								3					
78	L. weidemeyerii	Weidemeyer's Admiral				1	1						1		
79	Vanessa cardui	Painted Lady	1	1	1	2		6	1	23	8		2	15	
80	V. virginiensis	American Lady				2									
81	V. atalanta	Red Admiral											3	1	
82	Asterocampa celtis	Hackberry Emperor													
	<b>NYMPHALIDAE</b>	<b>Satyr</b>													
83	Coenonympha tullia ochracea	Common Ringlet	17	12		40	8	67	12	26	25	19	9	17	45

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Brushfoots</b>																		
Variegated Fritillary	18	7	9	4	19	3	958	1	13		81		4	41		17	1	17
Aphrodite Fritillary				16	12		69		6	34	20	22		6	4	217	12	15
Atlantis Fritillary							1		1	1	3							
Northwestern Fritillary				2	6	1	8	1		15	1	4		1	8	138	8	2
Mormon Fritillary				1			2											
Coronis Fritillary							9		4	4		14		2	7	12	15	14
Callippe Fritillary		1	1			10	15	2		9		9		1	8	41	2	1
Edwards' Fritillary	1		1	5			11	2			1	5		1	5	10	11	2
Fritillary sp.						3		1	8	41				11	56	86	45	17
Variable Checkerspot		3	7				2			2					2			1
Arachne Checkerspot	8				6	1	1			2	2	1		1		3	5	2
Gorgone Checkerspot			1				2		6			2		1	1			2
Silvery Checkerspot						1	4	3			1	7			67	16	24	2
Northern Checkerspot						1	7	2	8		1	3		1	4	1	16	7
Northern Crescent	10	7	8			1	8					4			11	32	18	19
Field Crescent	2		7	13		2	7	7	44	5	1	7	9	2	4	11	6	4
Pale Crescent							**1	1				1						
Pearl Crescent												5				9	8	1
Satyr Comma							1				1					1	4	
Hoary Comma	1	3		1	11		20	1	8	4	7				2	6	15	6
Common Buckeye											2					1		
Mourning Cloak	1						7		2		3	12				6	4	10
California Tortoiseshell										2		1						
Milbert's Tortoiseshell				2			1				3						1	2
Viceroy				1											1			
Weidemeyer's Admiral				1	1		47		4		4	10		5	14	9	12	2
Painted Lady	1	7	1	3	125		173	16	64		7	38		9	2	19	3	14
American Lady		1												3		2		1
Red Admiral	1	1			2		13		2		17			2	2	2	14	
Hackberry Emperor							14							1				7
<b>Satyr</b>																		
Common Ringlet	54	61	110	4	18	34	158	55	80	5	60	162	33	96	340	1	124	67

			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
84	Cercyonis pegala	Common Wood-Nymph													
85	C. oetus	Small Wood-Nymph			50				3	1			8		
86	Erebia epipsodea	Common Alpine	7	3		4	5	30	2	16	19			50	22
87	Neominois ridingsii	Ridings' Satyr													
88	Oeneis chryxus	Chryxus Arctic	18			1	30		26		13		17		68
89	O. uhleri	Uhler's Arctic													
90	Libytheana carinenta	American Snout													
	<b>NYMPHALIDAE</b>	<b>Milkweed</b>													
91	Danaus plexippus	Monarch				1		4	1	1					
	<b>HESPERIIDAE</b>	<b>Spreadwing Skippers</b>													
92	Epargyreus clarus	Silver-spotted Skipper													
93	Pholisora catullus	Common Sootywing													
94	Erynnis afranius	Afranius Duskywing			1										
95	E. icelus	Dreamy Duskywing			2										
96	E. pacuvius	Pacuvius Duskywing							1	1					
97	E. persius	Persius Duskywing					8	11	13	38		1	9	2	23
98	E. martialis	Mottled Duskywing													
99	Pyrgus communis	Common Checkered-Skipper								1					
	<b>HESPERIIDAE</b>	<b>Grass Skippers</b>													
100	Piruna pirus	Russet Skipperling													
101	Oarisma garita	Garita Skipperling	6	6	1	4	1	3	3	5	2	3	2		5
102	Hesperia uncas	Uncas Skipper													
103	H. colorado	W. Branded Skipper													
104	H. ottoe	Ottoe Skipper													
105	H. nevada	Nevada Skipper	2	1		6		1	1	2	2		3		2
106	H. pahaska	Pahaska Skipper					1						2		10
107	H. viridis	Green Skipper													
108	Polites draco	Draco Skipper	10					1	1						
109	P. themistocles	Tawny-edged Skipper													
110	P. origenes	Crossline Skipper													
111	P. mystic	Long Dash							1	1	1		8		2
102	Atalopedes campestris	Sachem													
103	Atrytone arogos	Arogos Skipper													

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Common Wood-Nymph							6					1						1
Small Wood-Nymph				16		9			1	6	7					104	1	1
Common Alpine	32	12	65	2	3		55	6	13	7	2	48	11	22	75		21	5
Ridings' Satyr							1											
Chryxus Arctic		19		14		13		32		4		82		41				22
Uhler's Arctic							3					7	2	1	35		6	1
American Snout											2							
<b>Milkweed</b>																		
Monarch				1	1		2				2			3		1		
<b>Spreadwing Skippers</b>																		
Silver-spotted Skipper							3					1				5	4	1
Common Sootywing							1					1						
Afranius Duskywing							1											
Dreamy Duskywing							6	2							11			
Pacuvius Duskywing		6	2			2		2	4		6	2		6	1	5	1	2
Persius Duskywing	17		29	3	6	4	32	29	15	6	19	27		3	50		17	15
Mottled Duskywing			1	4														
Common Checkered-Skipper					4		13		4		15	2	1	1		5	3	3
<b>Grass Skippers</b>																		
Russet Skipperling						1	10	1	1	2	8	5		2	11	17	11	3
Garita Skipperling	3	5	7	36	12	24	2	13	72	10	7	29	8	4	70	7	8	14
Uncas Skipper							3											
W. Branded Skipper										1	5						3	
Ottoo Skipper							2					1						
Nevada Skipper			4				2					3						
Pahaska Skipper		1	1	3		12	2	3	3		2	1						
Green Skipper									2									
Draco Skipper		1	3		1	2						4		2	2			1
Tawny-edged Skipper			1				1					1						
Crossline Skipper							5											
Long Dash	4	5	4	4	4	15	1	2	21	2	10	33	3	5	5		10	8
Sachem														1		41		
Arogos Skipper							1					4						

			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
104	Paratrytone snowi	Snow's Skipper										1	1		
105	Anatrytone logan	Delaware Skipper													
106	Ochlodes sylvanoides	Woodland Skipper					1	3	1			13			
107	Poanes taxiles	Taxiles Skipper													
108	Euphrys vestris	Dun Skipper													
		Skipper sp.	5												

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Snow's Skipper				1							7					5	2	1
Delaware Skipper							2					1						
Woodland Skipper				11	12	2				18		1				4	8	4
Taxiles Skipper						1	30	1	4	40	28	12	1	1		92	24	23
Dun Skipper							28		17	22	9	55		5	19	36	21	18
Skipper sp.						18	3	14			1			7			1	



2006 Jeremy Hurst and W. Tiger Swallowtail



2007 Bob Pyle placing Fritillary on Emi's nose



2007 Solitude Point - Bob Pyle, Emi Lehman, Daryl, Marina - Twin sisters in the distance.





2007 Marina, Josh, Emi in Geier Meadow



2007 Donn Cook, Bob Pyle, Kathy and Jim Snow, Scott Severs, Daryl and Marina (front), Bay Roberts (yellow), Emi Lehman, \_\_\_ blue, Joshua Whitaker





2014 Top row: Russ and Jacqueline Shaw; Back row: John Barr, Lonnie Frye, --, Larry Crowley, Jeremy Hurst, Richard Holmes, D. Pautsch, Miryam Broughall, Galen MacLahlan, Venice Kelly; Middle row: Wynne Whyman, Amy Chu, C. and J. Bens, Jean Morgan, Karen Kincy, ASA Hurst --, Pam Piombino, Janet Hanley; Front row: Susan Spaulding, Jim Snow, --, --, --, --, Joy Farquhar, -- -- Jan Chu, Gordon Revey, Ellen Shannon.

Report prepared by Jan Chu August, 2014

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