



G'nun*

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103

<http://wabutterflyassoc.org>

*G'nun is the official greeting of WBA. It is derived from the name of common Washington butterfly food plants, of the genus *Eriogonum*.



Saturday March 28: Bob Hardwick's collection of more than 7,000 butterflies will be displayed at the United Methodist Church in Gig Harbor from 1 p.m. to 5 p.m. Admission is free.

In this issue:

Changes for WBA	p 2
2015 Annual Conference	p 3
Watching Washington Butterflies	p 5
Species Profile	p 7
Book Report	p 8
Conference Registration	p 9
Field Trip Schedule	p 10
Field Trip Descriptions	p 11

Upcoming Programs

Wednesday April 1: Pollinators: Garden and Habitat Restoration. Julie O'Donald will identify a variety of pollinators that may be found in Puget Sound gardens and natural areas. Photos and identification of bumblebees, butterflies, wasps, flower flies and more will be included. Landscape features that promote healthy pollinator populations will be discussed. The program will provide a look at native plants beneficial to pollinators and show ways to incorporate native plants into garden and park landscapes. This program has been updated to include more information on native plants. Julie O'Donald is a Backyard Wildlife Habitat Steward and Master Gardener with over 30 years experience creating wildlife friendly gardens.

May 6: The Cascades Butterfly Project: Monitoring Butterflies as Indicators of Climate Change with Regina M. Rochefort, science advisor and plant ecologist at North Cascades National Park. The Cascades Butterfly Project is a long-term citizen science project that monitors butterfly populations in the Northern Cascade Mountains of Washington.

Recent Programs



On January 24, twenty-one of us met for our annual winter party at the home of Jim Flynn and Marissa Benavente. Highlights, as usual, were great company & conversation, great food, and, of course, the white elephant exchange. "Gifts" ranged from the ridiculous to the sublime. At one end was a talking caterpillar. At the other were some lovely butterfly pins and some great books, including *Life Histories of Cascadia Butterflies*. For general interest rather than exchange, Stewart Weschler brought a live Mourning Cloak he'd found on the street and is keeping in his refrigerator till spring.

From Goldendale, Jim Reed has joined us the last couple of years (combining it with visiting his son who is attending WWU in Bellingham). Unfortunately, the party is always too far away for most of you. (However, there's always our annual conference to make up for it.)



Important and Exciting Changes for WBA

As of April 1 WBA will operate as an independent organization separate from the North American Butterfly Association (NABA), of which we have been a chapter since our beginning in 1999.

Last fall, NABA sent newly revised bylaws for all chapters to sign. They included substantial changes from the previous bylaws with greater centralized control by NABA. Several areas concerned us, but primary were accepting NABA as the scientific authority for common and scientific butterfly names including their mandatory use in anything we publish; NABA intervention in our financial management and not allowing chapter-only memberships. Consequently, we sent a comparison of the existing and proposed bylaws out to you, our membership, for comments and opinions. The response was large and overwhelmingly against accepting the new NABA bylaws. The WBA Board agreed and on December 18, 2014, as directed by the WBA Board, your President Idie Ulsh wrote to NABA stating that the Board could not sign and accept them. We received no response, but since then NABA has dropped WBA from its list of chapters and has blocked changes to the WBA website which NABA has hosted. It was apparent that if we are to continue we must separate from NABA. To make the transition as orderly as possible, the WBA Board has established that we will be officially autonomous and withdrawn from NABA as of April 1, 2015.

After April 1, renewing your membership with NABA will not automatically make you a member of WBA as in the past. A form for renewing your WBA membership is included in this issue on the back page, and some of you may want to maintain membership in both WBA and NABA. Note, however, that if you renewed with NABA before April, we will continue to honor you as a WBA member until your renewal time comes up again.

The Board has been moving forward with acquiring insurance coverage and filing new bylaws, articles of incorporation, etc. with the State of Washington and the IRS as required for our new structure. To replace the website hosted by NABA, our webmaster Carolyn Heberlein is developing a new and even better website at wabutterflyassoc.org. This transition should be seamless for you as we carry on with all the same activities as we have in the past. Please contact us at clodiusparnassian@outlook.com with your questions, comments, suggestions and new ideas. We appreciate your support as we move forward with these important and exciting changes.

Richard Youel

2015 Annual Conference: June 26-28, Omak/Okanogan County

For our sixteenth annual conference, we return this June to Okanogan country - the land of shrub-steppe, dry forests, and butterfly diversity. We gather for lectures on Friday and Saturday nights at the Okanogan Grange; 305 Tye St.; Okanogan. Lodging can be found in nearby Omak, and camping is scattered throughout the area. Look for details on the following page. A registration form is included in this issue, and registering by May 29 gets you a \$10 discount and allows you to buy optional meals. June is a busy season for visitors to Okanogan country, so book your accommodations early and join us for a fun and interesting weekend.



Near Loomis (anonymous)

Okanogan County is one of the best areas in Washington for butterfly diversity. The county is well beyond the normal field trip range for WBA, and as a result we don't visit the area as often as we would like. There are several iconic destinations within striking distance of Omak; names like Moses Meadows, the Sinlahekin Valley, Long Swamp, Thirty-mile Meadows and Salmon Meadows evoke long-time memories in the collective minds of Washington lepidopterists.

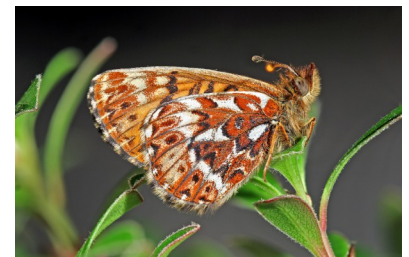
For the full-day field trip on Saturday we are planning to visit Moses Meadows, a large natural meadow surrounded by evergreen forests, about 20 miles east of Omak and entirely within the Colville Indian Reservation. We will be butterflying along unsurfaced roads where walking will be limited and optional, so this will be a pretty easy trip into some excellent habitat. Possibilities include the much sought-after Meadow Fritillary, Oreas Comma, Northern Checkerspot and a nice variety of other northern species.

On Sunday our half-day trip will be to the beautiful Sinlahekin Valley about 25 miles northwest of Omak. This is state Fish & Wildlife land, with numerous access points for fishing and camping; butterflies can be exceptional at times, sometimes forming large puddle parties right in the roadways. Like Moses Meadows, this trip will also be easy and relaxed with minimal walking. A State Discover Pass is essential for each car participating in this trip.

While the conference traditionally ends following the Sunday half-day trip, this year we will try something a little different. For those who are able to stay and are interested, we are planning another field trip for Monday. This will be a fairly long (120 mile) loop trip off to the west of the Sinlahekin; about a third of this distance will be on unsurfaced roads of mostly good quality. On this loop we will travel west from the tiny town of Loomis to Long Swamp, a location long known to harbor the rare Freija Fritillary as well as a good selection of other butterflies. Then we will continue south on forest roads through an old burn to Thirty-mile Meadows, another stronghold of the Freija Fritillary. Continuing south we will cross Lone Frank Pass and drop down to beautiful Salmon Meadows where the pavement resumes. Then we will continue southeast through Conconully and back to Hwy 97 at Okanogan. This trip passes through some higher elevation terrain where weather can be an issue, so we will need to stay flexible to other possibilities.

Online Conference Registration: Instead of using the conference registration form in this newsletter prompts, paying by credit card or by mailing a check to: Washington Butterfly Association ATTN: Registrars P.O. Box 31317 Seattle, WA 98103

Referring to the paper form might be helpful during online registration. The first online page asks for number(s) of people wanting the various registration choices, including those who want partial registration. The second page then provides a registration form for each person, including name, meal choices (and, when applicable, partial registration options).



Freija Fritillary (D. Nunnallee)

Conference Lodging

Best Western Plus Peppertree Inn, Omak. 8 miles, 11 minutes from Okanogan Grange. 820 Koala Avenue; Omak, WA 98841-9744 509-422-2088; reservations 800-780-7234

<http://book.bestwestern.com/bestwestern/US/WA/Omak-hotels/BEST-WESTERN-PLUS-Peppertree-Inn-at-Omak/Hotel-Overview.do?propertyCode=48169>

Until Friday, May 29, the Peppertree will hold a limited number of rooms for guests identifying themselves as part of the WA Butterfly Association – either two queens or one king for \$109, including tax. After May 29, WBA callers can still book rooms but rates may go up and rooms may no longer be available in Omak's busy season. Other types of rooms may be available at other rates.

Omak Inn 8 miles, 11 minutes from Grange. 912 Koala Dr.; Omak, WA 98841. 509-826-3822; reservations 800-204-4800. <http://www.omakinnwa.com/>

Rodeway Inn and Suites 5 miles, 11 minutes from Grange. 122 North Main St.; Omak, WA 98841. 509-826-0400 <http://www.rodewayinn.com/hotel-omak-washington-WA115>

Camping out of town

Leader Lake Campground, 10 miles, 14 minutes from Okanogan Grange. DNR site; free w/ Discover Pass. 16 sites; no piped water, no reservations. <https://www.flickr.com/photos/wastatednr/sets/72157630330760566/>

Conconully State Park, 19 miles, 34 minutes from Grange. Discover Pass required. 119 Broadway St.; Conconully, WA 98819 <http://www.parks.wa.gov/491/Conconully>

Sinlahekin Wildlife Area, 29 miles, 42 minutes from Grange to Fish Lake. Discover Pass required. http://wdfw.wa.gov/lands/wildlife_areas/sinlahekin/Sinlahekin/

USFS campgrounds <http://www.fs.usda.gov/recarea/okawen/recreation/camping-cabins/recarea/?recid=59075&actid=29>

Cottonwood Campground, 21 miles, 39 minutes from Grange

Oriole Campground, 22 miles, 43 minutes from Grange

Kerr Campground, 23 miles, 44 minutes from Grange

Salmon Meadows Campground, 28 miles, 56 minutes from Grange

Town camping

East Side Omak City Park/Carl Precht Park, 5 miles, 12 minutes from Grange. Developed park/playground w/tent sites & RV hookups. http://www.omakcity.com/eastside_park.html

Okanogan County Fairgrounds, 2 miles, 6 minutes from Grange. RV & tent sites; showers; \$17-25/night. <http://okanogancounty.org/fair/rvpark/index.html>

Okanogan Legion Park, 1 mile, 4 minutes from Grange. 1406 2nd Ave. North, Okanogan. A few no-reservation sites between river & highway; showers; \$5-10. 509-422-3600. Okanogan@northcascades.net.



Sinlahekin Wildlife Area, Fish Lake (WDFW)

Watching Washington Butterflies with Bob Pyle

Number Twenty: Don't Know Much About Phenology

As in the old Sam Cook song, we might not know much about biology, but we do know what we love. And we all love butterflies. And butterflies love the sun and the warmth and the full-on growth of fresh plants in the springtime. We come to expect that certain species will appear at certain times, often predicted by what's happening in the vegetative realm. And to the extent that we can recognize these comings and goings, and correlate them with one another and the changing seasons, then perhaps we know something about phenology after all.

Phenology (from the Greek *phainō*, which refers to light, or appearance; and *logos*, having to do with knowledge) is the branch of biology that brings itself to bear upon seasonal changes in living communities. When we speak of phenological signs, we are speaking of when the first swallows appear or disappear according to their migration, when frog-song resumes in the early spring, or when the sap is right for tapping in a maple sugarbush. The flight period we associate with each species of butterfly is perhaps the key phenological fact for our purposes.

Even as I write, on this early March morning, I am distracted by the butterfly activity outside. Four species have appeared at Swede Park in Wahkiakum County today: one fresh Margined White, flying a full circuit around the house. A bright Satyr Anglewing, fluttering right outside the kitchen window as I made coffee, and cruising around the front porch all morning since; Echo Azures floating about a cherry laurel coming into bloom, and nectaring on heather; and four or five Mourning Cloaks all over the place—nectaring on the laurel, basking on logs, and flying high in twinned courtship flights. None of these species are unusual for March, but such a display this early in the month is definitely unusual here.

But this has been that kind of a winter, of a spring! For the first time in my memory, I saw skunk cabbage five inches up in a swamp even before New Years—on a frigid Christmas Bird count in late December, in fact—and things went from there. Also for the first time I can recall, the advent of the daffodils preceded that of the crocuses. Daffodil leaves were six inches up before I noticed a single crocus break ground. The very first bulbs to bloom every year, the snowdrops, came out a week early, but then fizzled with just a fraction of their normal drifts. And when the daffodils finally bloomed, in early February the crocuses had almost caught up. By March, both had largely gone over, as had a pink camellia that normally doesn't even break bud until then. As I speak, a host of pollinators—honeybees, bumblebees and several other native bees, beeflies, hover flies, and others—along with the early geometrid moths *Mesoleuca gratulata* and *Enchoria lacteata*, are all over the white spiraea flowers. The Asian pear is just busting into bloom, and there is plenty of time still for late, hard frosts, which would mean no Asian pears in August. So, no wonder all the butterflies that are distracting me out there. All this is phenology.



Mourning Cloaks and Anglewing
(Elissa Kobrin)

Not that this is the first spring things have been like this. I remember one season in the late nineties when the Pacific chorus frogs actually bore a second generation over the winter in stock ponds that never froze, and their spring chorus came full-throat on the fourth of January. Then there was the spring of 2007, when I was teaching in Montana and harbored immense envy for all the lepidists back home in Cascadia who were raking in the butterfly sightings by the early bushelsful! Such a spring as the current one is not necessarily a direct result, or indicator, of global warming, though it is probably much affected by the Great Warming. Because the climate and everything affecting it lie along a gradient of variability (as does almost everything else), actual cause and effect can be very difficult to pin down. There have always been warmer, colder, earlier, later seasons. What is different is that now the early, warm ones are likely to be more frequent and more extreme, at least in our mellow (if moist) corner of the continent.

What CAN be said with reliability is that an organism's, or a community's, or a locality's phenology is directly and measurably concocted from and affected by a number of discrete factors. These include the fixed quantities, such as latitude, longitude, altitude, daylight, and distance from the coast or mountain ranges; and the variables, including precipitation, mean, minimum, and maximum temperatures, humidity, winds and storms, and barometric pressure. Scientists mostly concur that a butterfly's emergence time (at least for many species) depends primarily upon a delicate dance between average temperatures and length of daylight, as modified or ameliorated by the other factors named above.

After all, if the Echo Azures or Becker's Whites all emerged when a certain temperature was reached, and then the thermometer dropped radically again and stayed there, they'd all freeze, and a year's reproduction might be lost. Conversely,



Phenology: Echo Azure on Camas (Walter Siegmund)

if they all waited for a certain length of day to come out, they might have missed a month of warm days already, and find their host plants past bloom or all dried out. By averaging out both factors into a complex matrix the insects' receptors (as honed by the harsh lessons of evolution) give the thumbs-up for all systems go when the likelihood of survival is strongest. Moisture and direct sunshine further factor in the mix. And underlying it all is genetic variability, so that not every individual responds the same to the same cues: there is a natural spread of earlier or later emergers, as genetically determined. So put the hard-wired factors together with the adaptive variables, and you get a phenological spread that should be most favorable to survival for the greatest number of emergers.

So, if the elegant back-ups and redundancies and collaborative features furnished by the kindly care of evolution ensure that butterflies and weather generally work out well together, why should we be concerned about climate? If the fact that winters are generally getting warmer and shorter here, and southerly species are certainly advancing north to swell our checklist, and our butterfly season is likely to go on advancing until the field trip schedule will have to begin in January, shouldn't we just sit back and enjoy it all and thank the gods we live where we do? Of course we should, and we do, and we shall. But that's not the whole story. At least three downsides may attend this rosy picture.

First, even if the Pacific Northwest becomes a more salubrious location for butterflies and butterflyers, that doesn't mean that both aren't suffering in other locations. And while Buckeyes show up in eastern Washington and Virginia Ladies overwinter on the west side, we may be fixing to lose much rarer species (such as Melissa Arctics and Lustrous Coppers) off the tops of our northern mountains as the climate stokes up the furnace. Drying and warming elsewhere may harm the overall butterfly picture (and of course, for many other organisms), even as we enjoy earlier spring days full of butterflies, such as today. Two different articles in the Spring 2015 issue of *Douglasia* (WA Native Plant Society) indicate how the phenology of alpine meadow and vernal wet meadow plants will be adversely affected by diminished snowpack in the Cascades. Such changes will certainly rebound in a decline of the butterflies dependent upon these plants as well.

Secondly, another threat lies in the differing phenologies of animals and plants. No matter how well oiled the machinery governing emergence, with respect to temperature and survival, it will all come to naught if the right plants don't come out at the right time. And the plants' phenology is not necessarily directly linked to that of the animals that depend upon them, and vice versa. So we are already seeing instances of butterflies making their curtain-call, only to find key vegetative cast members absent. This cuts both ways: not only will the insects find a lack of floral resources, but when the flowers finally pop (or pop even earlier) they might not find their pollinators waiting for them. In one example, northbound Monarchs have returned from Mexico much earlier than usual lately, when southland springs have come hot and dry. When this happens, and the effect is exacerbated by those hot and arid conditions, the new growth of milkweed is not yet ready or sufficient for the egg load the Monarchs would like to leave behind. You can see how such asynchronous match-ups—basically, stood-up dates—don't go down very well. This liability of climate change affecting plants and co-evolved animals differentially to their mutual disadvantage is called phenological displacement. We'll see more and more of it. The question is, can the affected plants and animals co-adapt again, and rapidly enough to recalibrate their dance? That's hard to do, when the climate is a moving target.

And the third problem? How am I supposed to get this column written, with all the butterfly action outside? If our butterfly springs go on like this, we're all in trouble!

Species Profile: Silver-spotted Skipper (*Epargyreus clarus*)

by Dave Nunnallee

The Silver-spotted Skipper is a member of the family HesperIIDae, the skippers. All North American skippers can be recognized by their recurved antennal clubs. Washington's skippers currently fit into three subfamilies, the Pyrgine (spreadwing) skippers, the Hesperine (grass or monocot) skippers, and a third subfamily, the Heteropterinae, which in this area includes the Arctic Skipper. In Washington State we have 29 species of skippers, 11 of which are Pyrgine (spreadwing) skippers, including *Epargyreus clarus*.



The Silver-spotted Skipper is widespread, occurring throughout most of the lower 48 states as well as parts of southern Canada and across northern Mexico. In Washington State, *Epargyreus clarus* is found in two non-contiguous areas. One area includes most of the lower elevation regions of Washington west of the Cascades, and the other encompasses the southern Columbia basin through the Blue Mountains, connecting with adjacent Idaho. These disjunct populations represent two different subspecies. *E. clarus* is absent from most of our mountainous areas.

Epargyreus clarus is single-brooded in Washington, overwintering as a pupa, although in captivity it may eclose to a second adult generation which is not normal-



ly observed in the wild. *Epargyreus* pupae eclose in the spring. In Washington the recorded flight period extends from early May through July. After mating the female lays its eggs singly on a small terminal legume leaf, often the topmost leaf on the plant, and typically places only one egg per plant. The egg is larger than other skipper eggs which might be found on the same host plant.

Epargyreus uses legumes as its larval hosts, apparently using only *Lotus crassifolius* (Big Deervetch) west of the Cascades, but *Glycyrrhiza* (Wild Licorice) or certain species of Locust on the east side. *Lotus crassifolius* is also used by another skipper, *Erynnis persius*, with which the larvae can be confused in the earliest stages of development.

On hatching, the early instar larva cuts and folds over a small patch of leaf, silking it in place as a shelter. Feeding on the lush *Lotus* foliage the larva grows fairly fast and to a large size, becoming one of the most attractive caterpillars of all our State's butterfly species. Following the earliest instars the larva ties multiple leaves together with silk for its ever enlarging nests. The final instar larva, which reaches the impressive size of 35 mm, is beautifully patterned with a bright yellow body and reddish collar and has a large, glossy black head capsule punctuated with bright orange false-eye spots. In some areas such as the Tahuya Peninsula, *E. clarus* can be locally common and can be fairly easy to find in its egg and larval stages on the *Lotus* host plants. At maturity the large larva continues feeding lightly for a considerable time without growing further, then finally pupates to its hibernation stage to repeat the life cycle the following spring.



The pretty *Lotus crassifolius* host plant also hosts at least three other butterfly species including *Callophrys perplexa* (Bramble Hairstreak), *Strymon melinus* (Gray Hairstreak) and *Glaucopsyche lygdamus* (Silvery Blue).

Epargyreus clarus is our largest skipper species, and is a powerful, darting flier. Adults often stop to nectar, and sometimes may be approached for photography. Owing to its large size together with the presence of a large, dramatic silver spot on the ventral hindwing, the identification of this species is unmistakable in Washington.

Book Report by Joyce Bergen: *Real Gardens Grow Natives* Design, Plant, and Enjoy a Healthy Northwest Garden

<http://www.mountaineersbooks.org/Real-Gardens-Grow-Natives-P1432.aspx>

Real Gardens Grow Natives
Design, Plant, and Enjoy a Healthy Northwest Garden
By Eileen M. Stark

Is it possible to appreciate butterflies without appreciating native plants? Well, no. If you start out strictly chasing fauna, you'll quickly see that the story's incomplete without flora. If you want to find Behr's Hairstreaks, you'll do well to look for bitterbrush, *Purshia tridentata*.

Learning to field-identify native host plants and nectar sources leads to the delight of stumbling on familiar floral friends, wherever encountered. That camaraderie expands until you're disdainfully eyeing marguerite daisies in your own garden, and wishing for a little *Erigeron speciosus* instead.

But if you're still not won over to the cause of native plants, Eileen Stark, an Oregon landscape designer, presents *Real Gardens Grow Natives*, a book that makes a good case for choosing natives over exotics. She champions plant diversity and explains the many ways that we can attract birds, bugs, and many types of animals to use and feed in our yards.

With Ms. Stark's book, you have a clear guide to transforming your own patch of the planet into a haven for native plants and animals. She offers advice for all situations – even if you're currently stuck with a turf lawn and overbearing hedges, or you're in the unusual situation of tackling a blank slate.

Rather than surrender to impulse purchases at a plant sale, Ms. Stark would have us create an overall plan for our garden. She guides us through each step of drawing a scaled site plan showing available light and space, and advises us on ways to rejuvenate starved soil without the use of additives – like peat moss – that ultimately deplete other environments.

But Ms. Stark is no purist, and she offers suggestions on combining natives and exotics. She also sings the praises of a messy garden, with leaf litter and brush piles to provide animal cover, and she explains alternatives to using dangerous insecticides.

Almost half of her book is devoted to presenting 100 native plants appropriate for home gardens. Grouped according to light requirements, each plant's needs and benefits are detailed – including how each one could more beautifully fulfill the function of common exotics. For instance, wouldn't you rather establish a background hedge of red-twig dogwood, *Cornus sericea*, and aromatic mock orange, *Philadelphus lewisii*, instead of Portugal laurel or invasive butterfly bush?

Any butterfly-lover would nod approvingly at Ms. Stark's many references to butterflies, the entire section "Providing for Pollinators", and her lovely photographs that include quite a few insects and birds drawn to native plants. Regrettably, she does not mention WBA in her helpful appendix of resources, but she does list the BugGuide website and the Xerces Society.

Even though this book applies mainly to gardens west of the Cascades, it's also useful to those of us living east of the mountains. I found many of my own familiar floral friends among the pages, and I appreciated her clear information on what each plant requires to thrive. And I found a little hope in imagining the restoration of a network of native habitat – one backyard at a time.

For more on gardening with natives:

<http://www.nytimes.com/2015/03/11/opinion/in-your-garden-choose-plants-that-help-the-environment.html?&moduleDetail=section-news-0&action=click&contentCollection=Opinion®ion=Footer&module=MoreInSection&pgtype=article> <<http://www.nytimes.com/2015/03/11/opinion/in-your-garden-choose-plants-that-help-the-environment.html?&moduleDetail=section-news-0&action=click&contentCollection=Opinion®ion=Footer&module=MoreInSection&pgtype=article>

Washington Butterfly Association 2015 Conference Registration & Meal Reservations
Okanogan, Washington, June 26 - 28, 2015

Registration is \$90; early registration by May 29 is \$80. No refunds after May 29. Registration fee doesn't include lodging or meals. Dinner reservations must be received by June 8; sack lunches by June 20.

Name _____
Address _____
City, State, Zip _____
Telephone _____ Email _____

Please print clearly

Enter number of people and, if chosen, any meals, with totals and grand total in the right-hand column.

WBA MEMBERS—REGISTRATION	Price	How many?	Total
Full Registration includes Friday evening light refreshments & lecture, Saturday field trip, Saturday evening lecture, Sunday field trip	\$90/ \$80		
- Children 12 and under free if accompanied by an adult registered for the conference	\$ 0		
Partial Registration:			
Friday evening only	\$25		
Saturday field trip only	\$35		
Saturday lecture only	\$25		
Sunday field trip only	\$25		
SPECIAL OFFER! Discounted registration AND one year free WBA membership for first-time members, juniors 13 –17 years, and students enrolled in school programs. Under 18 must be accompanied by registered adult.			
Full Discounted Registration includes Friday evening light refreshments & lecture, Saturday field trip, Saturday evening lecture, Sunday field trip.	\$45		
Children 12 and under free if accompanied by a registered adult	\$ 0		
Partial Discounted Registration:			
Friday evening only	\$15		
Saturday field trip only	\$25		
Saturday lecture	\$15		
Sunday field trip only	\$20		
A Monday field trip to Long Swamp Loop will be available for those staying over	Free		
MEALS--OPTIONAL not included with registration fee. Sack lunches but not dinners can be arranged for special dietary needs. Contact the registrars if relevant. Bring your own water for field trips.			
Saturday dinner: includes green beans, salad, garlic bread, brownie with ice cream. Pick one entrée per person.			
Adults			
Chicken Alfredo Pasta	\$20		
Vegetarian Mushroom Alfredo Pasta	\$20		
Children (12 and under)			
Chicken Alfredo Pasta	\$10		
Vegetarian Mushroom Alfredo Pasta	\$10		
Sack lunches includes sandwich, chips, fruit, cookie			
Saturday sack lunch with organic corn chips, fruit, and chocolate chip cookie			
Chicken breast, Havarti, and avocado spread on focaccia	\$10		
Guacamole, Havarti, and pepperoncini on 7-grain bread	\$10		
Sunday sack lunch with Tim's potato chips, fruit, and peanut butter cookie			
Black Forest ham and Swiss cheese on sourdough bread	\$10		
Hummus, provolone, and chopped olives on whole wheat bread	\$10		

TOTAL

\$

1. The first step in the process of identifying a problem is to define the problem. This involves identifying the symptoms of the problem and determining the scope of the problem. Once the problem has been defined, the next step is to identify the causes of the problem. This involves identifying the factors that are contributing to the problem and determining the underlying causes. Once the causes have been identified, the next step is to develop a plan of action. This involves identifying the steps that need to be taken to solve the problem and determining the resources that will be needed to implement the plan. Once a plan of action has been developed, the next step is to implement the plan. This involves carrying out the steps that have been identified in the plan and monitoring the progress of the implementation. Finally, the last step in the process is to evaluate the results of the implementation. This involves determining whether the problem has been solved and whether the resources have been used effectively.

2015 Field Trip Schedule

Date	Destination/Description	Difficulty	Trip Leader/Contact
April 18	Cowiche Canyon	2.5	David James, CCC
May 9	Douglas Creek Canyon BLM Rec Area (Douglas County)	1-2.5	D. Nunnallee
May 23	Coleman Creek Canyon (NE of Ellensburg, Kittitas County)	1-2	D. Nunnallee
June 6	Robinson Canyon, near Thorp (Kittitas County)	2	D. Nunnallee
June 6	Scablands Trip to Twin Lakes and Upper Crab Creek		J. Baumann
June 13	Swakane Canyon (Kittitas County)	1-2	D. Nunnallee
June 26-28	Annual Conference, Okanogan	1-2	
July 11	4th of July Butterfly Count, Little Pend Oreille NWR (Colville)		NWR Staff
July 11	4 th of July Butterfly Count, Chumstick Mountain (Cashmere)	1	A. Wagar
July 18	Bethel Ridge (Yakima County)	1-2	James and Nunnallee
August 1	Bear Creek Mtn, Yakima County	4	James and Nunnallee
August 8	Quartz Mountain	2	Maureen Traxler*
August 22	Monarch Tagging, Grant County	1-2	James

4/28, 5/5, 5/12 and 5/19, Butterfly I.D class for ACT 2 @ Community Colleges of Spokane. Magnuson Bldg near SFCC campus. (Must register through community colleges.)
For information, contact John Baumann

8/7, 8/14, 8/21, 8/28 and 9/4 (all Fridays) Two, or at most three people are needed to inventory butterflies and vegetation along the **Naches Loop Trail**, Mt. Rainier National Park. This is part of the Cascade Butterfly Research Project, a citizen science project in its 5th year. The 3.5-mile trail has a 500 ft. elevation gain.
If interested, contact Melanie Weiss

Non-consumptive appreciation of butterflies is central to our purpose, basic to our approach, and the guiding principal behind general membership field trips. Collecting of adult butterflies is not allowed on these trips. Collecting of eggs and larval stages for rearing is accepted on condition that individuals raised to adult stage are released at their original location.

HOW TO SIGN UP: Anyone can sign up at a WBA monthly meeting or by contacting the trip leader. (See Board and Committee list in this issue for contact information)

RAIN DATES (if any) SHOWN IN PARENTHESES

DIFFICULTY RATINGS:

- 1 Easy, mostly by car, minor walking along roads
- 2 Fairly limited walking, some slopes involved.
- 3 Moderate, up to 1.5 miles walking with moderate slopes.
- 4 Difficult, hiking required, trails or terrain are steep in places
- 5 Very difficult, extended hiking on trails or steep terrain.

WHERE & WHEN TO MEET: Trips depart from the north half of the Ravenna Park & Ride at 7:00 a.m. unless expressly stated otherwise. The park & ride is located under I-5 at Ravenna Blvd between NE 50th & NE 65th St. On request we also stop at the Issaquah Park & Ride at 7:30 a.m. To reach the Issaquah Park & Ride: going eastbound on I-90 take Exit 15 (1st Issaquah exit). At exit stoplight turn right (south) and drive 0.45 mile to Newport Way intersection (traffic light). Turn left (east) on Newport Way and drive 0.1 mile to another light, and turn right (south) into the Park & Ride. If you live in another part of the state, contact the trip leader to arrange where to meet the field trip group.

Please tend to personal matters such as getting coffee or lunch food before departure time so others are not delayed. Bring your own beverages, snacks and lunch for a day in the field.

All field trips are conducted by carpool. Without the volunteer participation of drivers, the trips are not possible. If you have a car that you are willing to drive, please have the gas tank full and ready to go.

All WBA-sponsored field trips are fully insured through our parent organization, NABA.

COSTS: Passengers are expected to share gasoline expenses. Typically this is \$10-20 each. Each rider should also pay a share of any park entry fees, ferry fares, etc. The trip leader will collect a voluntary donation of \$5 per person (children under 12 are free) for each field trip to help offset expenses of the organization.

2015 WBA Field Trip Descriptions

4/18/15 Cowiche Canyon with Cowiche Canyon Conservancy: This outing is a walk along a well-maintained flat grade (old RR grade) in the bottom of a shrub-steppe basalt canyon in western Yakima. Distance 1-1.5 mi each way. A number of early shrub-steppe butterflies are likely, including the scarce Lucia's Blue.

5/9/15 Douglas Creek Canyon BLM Rec Area, Douglas Co.: A new trip for WBA, east of Badger Mtn. and south of Waterville. This deep shrub-steppe riparian canyon has a creek and a nice complement of butterflies. We will work from our cars, except there will be one (optional) hike of about 1 mile each way on a good trail in a scenic riparian canyon.

5/23/15 Coleman Creek Canyon, NE of Ellensburg, Kittitas Co.: A new trip for WBA, in one of the canyons north of the Kittitas valley. This is a shrub-steppe/pine canyon with a road up the bottom; we will butterfly from our cars, with optional short walks into meadows.

6/6/15 Robinson Canyon, Kittitas Co.: A new trip for WBA, in a favorite birding destination south of Thorp. This rocky canyon has open fields and riparian areas along a stream. With some moisture there should be a good selection of butterflies. Working from cars, with optional hike of 0.5+ mile.

6/13/15 Swakane Canyon, Chelan Co.: An old favorite, Swakane Cyn can be alive with butterflies when conditions are favorable, especially when there are wet spots present. The road is rough in places, but there are several good stops and many fine shrubs. Open pine forest.

7/11/15 4JBC, Chumstick, Chelan Co.: This 4th of July Butterfly Count includes a drive up Derby Canyon, near Leavenworth. The canyon can be very productive for butterflies. The group will finish the day atop 6,800 ft. Chumstick Mtn

7/18/15 Bethel Ridge, Yakima Co.: This high ridge is south of Rimrock Lake in west Yakima Co. There is fine habitat, splendid views and large flowery subalpine meadows with many butterflies.

8/1/15 Bear Creek Mtn, Yakima Co.: This hike is fairly rigorous but on good trails, accessing great views and lovely scenery as well as a fine selection of higher elevation butterflies. For those in reasonably good shape.

8/8/15 Quartz Mountain : One of the highest points accessible by car (6,300 ft) in Kittitas County, SW of Cle Elum. Long, dusty forest roads have a number of productive stops, and the summit is beautiful. A long-time favorite of WBA trips. Access mostly from cars.

8/22/15 Monarch Tagging, Grant Co.: This outing is to catch and tag Monarchs as part of the Monarch migration monitoring program. Tagged Monarchs will hopefully be recovered in California during the winter.

Silent Auction at Annual Conference

WBA's 2015 Annual Conference will feature a Silent Auction on Saturday evening. Last year we raised several hundred dollars for WBA, and we had a lot of fun.

Help us repeat last year's success. The first thing you can do is donate new items to be auctioned. Do you have a skill that you could use to make something or to offer your services? Last year popular items were handmade scarves, artwork, a personalized butterfly field trip, and other wonderful things. Do you have a vacation home that you could offer for a weekend? Businesses are often willing to make a modest donation for the goodwill and tax deduction.

Let me know what you plan to donate before June 19 if possible, then bring your item to the conference. (If you can't make it to the conference, we'll make other arrangements.) If you want to ask a business for a donation, they may want a donation request form for tax purposes—

WBA Membership Application

The Washington Butterfly Association (WBA) is dedicated to the enjoyment, conservation and understanding of butterflies and their ecology through education and science.

Annual dues: Individual - \$20, Family - \$25

Name: _____

Address: _____

Phone: _(____)_____

E-mail : _____
(optional, For WBA business only)

Date: _____

☐ Check here to join Noticeline and receive email alerts on current items related to butterflies.

MAIL TO: Washington Butterfly Association, Box 31317, Seattle, WA 98103-1317 (or bring to a meeting).

Board Members

Idie Ulsh	President	
John Baumann	Vice President	
Donna Schaeffer	Secretary	
Jim Flynn	Treasurer	
Brenda McCracken	At-Large	
Al Wagar	At-Large	
Melanie Weiss	At-Large	
Richard Youel	At-large	

Committees

Jon Pelham	Science Advisor	
Marty Hanson	Membership	
Joyce Bergen	Annual Conference	
David & Jo Nunnallee	Field Trips	
By Committee	Programs	
Carolyn Heberlein	Publicity/Website	
Regina Johnson	Newsletter	
David James	Trip Leader, Central WA	