



*G'nun\**

The newsletter of the Washington Butterfly Association

P.O. Box 31317 Seattle WA 98103  
<http://wabutterflyassoc.org>

Facebook: Washington Butterfly Association. Instagram: #washingtonbutterflies (anyone can use this hashtag)

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



Regina Johnson on the Naches Loop transect of the Cascade Butterfly Project. (M. Weiss)

### In this issue:

**President's Message** [p 2](#)

**Cascade Butterfly Project** [p 3](#)

**Watching Washington Butterflies** [p 4](#)

**Species Profile** [p 6](#)

**Field Trip Schedule** [p 7](#)

**Note: All May field trips are cancelled.**

### 2021 Slate of Officers

The following slate for the WBA board is proposed for the membership's consideration:

President: Mary Schu

Vice President: ?

Treasurer: Regina Johnson

Secretary: Hailey Armstrong

At Large:

David Jennings

David James

Jim Reed

Lora Langford

John Baumann

Cheryl Bellin

Regina Rochefort

Nominations can be sent to either David Jennings or John Baumann.

### Upcoming Programs

Wednesday May 6, 7:00 – 9:00 pm

**Species interactions in a changing environment: plants, butterflies, and ants** by Dr Rachael Bonoan.

This presentation will be delivered over Zoom. Register ahead of time to receive the meeting link. To register, go to this link: <https://forms.gle/jjoubcECfD4Lq9Rp6>. Dr. Bonoan is a post-doctoral researcher at Washington State University and Tufts University where she studies the interaction between Puget Blue caterpillars, their host plant, and their ant attendants. A New England native, Rachael loves being able to spend her field season searching for caterpillars and chasing butterflies in the beautiful Pacific Northwest!

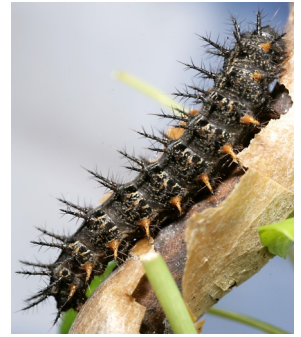
## The Coronis-virus by David James

Few may know that there is a Coronis-virus. Yes, that's right, Coronis. I have studied this virus among Coronis Fritillary larvae since 2015. It seems that like the Corona-virus, social distancing of larvae is an effective way to mitigate the disease!

I discovered the devastating effects of Coronis-virus in 2015 when I tried to rear ~ 200 larvae en masse. I fed them cut violet leaves in plastic boxes with absolutely no social distancing. From February 15 to March 15 there was very little mortality as they developed from second to sixth instar. However in the sixth instar a viral pandemic swept through the Coronis colony! All died within a week with none achieving pupation. Death was characterized by larvae going limp and expelling fluid from the mouth and anus.



Final instar Coronis larvae with no social-distancing. None of these larvae were spared by the Coronis-virus.



Socially-distanced Coronis larvae showed no evidence of Coronis-

In 2019, I tried rearing 12 Coronis larvae but this time with extreme social distancing. Each larva was reared individually within a plastic cup with a muslin lid. Only 6 larvae made it to the sixth instar but there was no evidence of a pandemic in this instar, no further mortality and all pupated. Social distancing worked! Good job too, since I did not want to go the leg-washing or face mask route.....

I wish this was more of a corvid spring than a covid one—I like crows! As I write this in late April, it is not clear when the “shelter at home” directives will be loosened. (*Just announced—not till June.*) At a minimum, when your board of directors looked at the landscape at our last board meeting, we realized it was in everyone’s best interest to cancel our scheduled summer study weekend—too many uncertainties amidst a pandemic.

## President’s Message from David Jennings

This was not an easy decision, as all the logistical details were falling into place. We have a great location (Blue Mtns), and Mary and Lora had already confirmed a meeting location, accommodations and catering options. But in the end, the health of all of us butterfliers is more important than any given long weekend—even in the Blues!

Plan ahead for next year as we will have our meeting at the same location—same time (2nd weekend in July) and the weather will be even better next year!

We have some logistical challenges without a summer meeting. The summer meeting is when we elect a board of directors for the upcoming year. If you would like to be on our board, please send me or John Baumann an email. We are always looking for new energy and ideas! We are exploring how we can hold an election remotely, so stay tuned.

Field trips are another conundrum for us. Clearly we will host no field trips in the immediate future, but looking into the summer we are scheduling some—including a long weekend trip to Slate Peak in early August. This depends, of course, on where we are with that phrase that we have become all too familiar with: flattening the curve. Please check our website as we will strive to keep it up-to-date as trips are confirmed.

This is a good time for building your local lists. Nature abounds and surprises!

## Cascade Butterfly Project: 2020 Season

The Cascade Butterfly Project, now in its 10th year, is a long term citizen science project monitoring butterfly abundance and plant phenology at Mt. Rainier National Park, the North Cascades National Park and a few other locations in the Washington Cascades. Please visit the WBA website,

<https://wabutterflyassoc.org/>, for detailed information on the 8 sites where we will be focusing our efforts this year. We have had at least sixteen WBA members volunteer in the program since its beginning. Volunteering provides an opportunity to get out in the beautiful alpine meadows, learn about the flowers and butterflies and perhaps find something new. Last year we recorded a Becker's White for the first time on the Naches transect. On the Sauk transect you may see the stunning Arctic Blue or the Vidler's Alpine. If you want butterflies, amazing views and a good workout, try a transect in the North Cascades.

NOTE: With the coronavirus in our midst, we are not sure what the situation will be with the parks this summer. We are thinking positive and planning for the 2020 season. We will keep you updated if the situation changes. If you are interested in the program, please contact:

Regina Rochefort at [regina\\_rochefort@nps.gov](mailto:regina_rochefort@nps.gov) or [gibbons.rochefort@gmail.com](mailto:gibbons.rochefort@gmail.com). She will put you on the CBP e-mail list for announcements and training.

Volunteers specifically interested in the Naches Loop route can contact Melanie Weiss directly at .

Field trainings are tentatively scheduled for the following dates, but may change:

July 8, 10-2 at Sauk Mountain, Mount Baker-Snoqualmie National Forest

July 15, 10-2 at Sunrise in Mount Rainier National Park



The Naches Loop Trail. (M. Weiss)



Arctic Blue. (M. Weiss)

## Changes to Delivery of the Gnum

If you get the Gnum printed and mailed to you, there's changes in your future. Due to difficulties with the printing and mailing process, the board has decided to move to all-electronic delivery. Currently there are only a handful of members on the printed mailing list, and we have an email address for all but one. For the few of you who are getting the Gnum printed and mailed, we need you to make sure we have your email address, and we are curious as to why you want the printed version mailed to you. Please send your email address to Carolyn Heberlein at

[wabutterflyassoc@gmail.com](mailto:wabutterflyassoc@gmail.com), and send one to the editor at x let me know why you want the print-ed version. For instance some people don't have a printer at home and they don't want to read it on screen. Others may not have internet access at home. Some of you may only be getting it by mail because you always have and never both-ered to switch to electronic! What you'll get in the future is an email from WBA with a link to the newsletter online. File size of the newsletter is typically 2-4 M, although the post-study weekend issue can be as much as 7 M.

Our plan is to be all-electronic by the November 2020 issue.

# Watching Washington Butterflies with Bob Pyle

## Number Forty

### A Blast from the Past:

#### John Hopfinger's Lepidoptera of North Central Washington, 1956. Part 1.

**AUTHOR'S NOTE:** John Hopfinger was one of our great pioneer Washington lepidopterists. He lived in Brewster, Douglas County, where he was an orchardist. He often hunted butterflies with his friend Andy Anderson from Pateros, across the Columbia River. Hopfinger and Anderson accounted for many county and a few state records, such as the first Astarte Fritillaries and Melissa Arctics, both of which they found at Cooney Lake in the Sawtooth Range in the 1930s. What follows is a significant historical document which is still useful today: Hopfinger's "Lepidoptera of North Central Washington," prepared for Charles L. Remington of Yale University in 1956, and never published until now. We correct that here, with the first of two parts. His comments concerning conservation are interesting, implicating sheep grazing and insecticides. Oddly, Hopfinger didn't report Mormon Metalmarks or Cabbage Whites, and omitted any notes on skippers, but a few moths are mentioned. I have edited only very lightly, adding common names and contemporary equivalents for species and a few subspecies names. It is intriguing to see how he coped with nomenclature in those days, and to read the names of a number of major lepidopterists with whom he communicated, two of whom described patronyms in his honor. As a teen in Colorado I corresponded with John Hopfinger, and consider him an important early influence on my own studies. We should remember him as a major figure in the history, field work, and knowledge of Washington butterflies. He was the true amateur: one who does what he does out of sheer love.

*Papilio daunus* [= *multicaudata*, two-tailed tiger swallowtail]: Resident of the Upper Sonoran. Feeds on chokecherry. Never common, winters in the chrysalis.

*P. eurymedon* [pale tiger swallowtail]: Flies in the higher valleys, when Don Eff was here in '43 we saw a flock of an estimated 500 on Gold Creek. Not too plentiful since.

*P. rutulus* [western tiger swallowtail]: About the same as *P. eurymedon*, seems to go higher than the latter. One aberration like *P. turneri* "fletcheri", above Gilbert.

*P. zelicaon* [anise swallowtail]: Occurs from river level, 900 feet, to the top of the Cascades. Flies in early April in the lower country.

*P. oregonia* [= *machaon oregonia*, Oregon Old World swallowtail]: Has the same range as *P. daunus*. Two broods a year, feeds on *Artemisia dracunculoides*. Spring form usually much darker than the summer brood, never any too plentiful.

*P. indra* [short-tailed black swallowtail]: Rare in the river valleys, good many around 4-5000 feet like Camp Gilbert. Have taken this up to 7000 feet. Last year I saw two specimens come down a steep rocky valley above the Twisp River, sailing straight down the valley, without moving a wing, as far as I could see them. Have taken three specimens in August along the Columbia, indicating a partial second brood.

*Parnassius smintheus* [Mountain Parnassian]: At high elevations in the Cascades, 7000 feet up, on top of the highest peaks occurs a small altitude form.

*P. clodius* [Clodius Parnassian]: Flies lower than *P. smintheus*, from 2500 to 5000 feet, not too common any time. Seems to feed on *Sedum*. [Note: we now know that the host plant in that part of the Cascades is *Dicentra uniflora*, Steer's Head, very difficult to find once it has gone over.]

*Pieris beckerii* [Becker's White]: Lower valleys, spring form small and dark, second brood much brighter and larger.

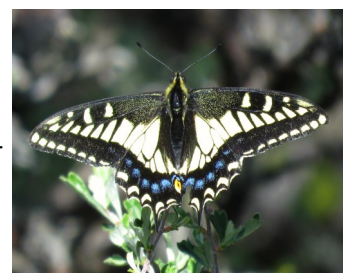
*P. sisymbrii* [Spring White]: Early spring in the same localities as *P. beckerii*, have never seen a second brood.

*P. occidentalis* [Western White]: From river valley to the top of Cooney Mountain. The widest range of any pierid we have here. Two broods in the low country.

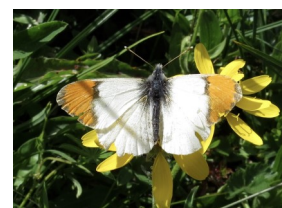
*Euchloe creusa* [= *E. lotta*, Desert Marble]: Occurs early in April, one of the wariest butterflies on the wing. Seems to hang around *Sisymbrium* in low country.

*E. ausonides* [Large Marble]: This species flies higher than *E. creusa* [= *lotta*], have taken it at Salmon Meadows, a week later along the Columbia than *E. creusa*.

*Anthocharis sara* [= *A. julia*, Julia's Orange-tip]. Has about the same range as *E. ausonides*. Camp Gilbert in July, smaller than along the river. Rare the last few years.



Anise Swallowtail. (C. Clark)



Julia's Orangetip. (M. Weiss)

(Continued on page 5)

*Colias interior* [Pink-edged Sulphur]: From 3-5000 feet. More plentiful to the east of the Methow River, July. Boulder Creek.

*C. eriphyle* [Western Clouded Sulphur]: Beautiful large specimens at 4-6000 feet. Tiffany Lake, Salmon Meadows in July, smaller specimens along the river in spring.

*C. edwardsi* [= *C. christina*, Christina's Sulphur]: Okanogan Highlands, rather than the Cascades region. Seems to be spreading to the south. One specimen taken near home [Brewster] last year. Usually around 3-4000 feet, above Conconully, east of Omak.

*C. occidentalis* [Western Sulphur]: McDunnough told me once, to forget this on the east side of the Cascades. Six miles up the Entiat River, north of Wenatchee, I took six specimens, some years back. I am going back there this spring.

*C. eurytheme* [Orange Sulphur]: In the lower valleys, summer and fall, never saw it in the mountains.

*Coenonympha inornata columbia* [= *C. tullia ampelos*, Ochre Ringlet]: 4-7000 feet, one brood, varies very much. Salmon Meadows, Cooney Lake, Crater Lake, Tiffany, etc., dos Passos identification.

*C. elko* [= *C. tullia ampelos*, Ochre Ringlet]: Along Columbia, Alta Lake, etc., all lower country. Can be found the year [season?] around, from early spring until late September. (Gunder determination).

*Erebia vidleri* [Vidler's Alpine]: 4500-7000 feet. Boggy meadows, never far from water of some sort; swamps, creeks, etc. Cooney, Crater, Tiffany lakes, Salmon Meadows, Harts Pass. Middle of July.

*E. epipsodea hopfingeri* [Butler's Alpine]: Flies lower than *E. vidleri*. Black Canyon, Alta Lake, up to Salmon Meadows, where it is somewhat smaller than the lower form. From two-three weeks earlier than *E. vidleri*. [This subspecies was named for Hopfinger by Paul Ehrlich in 1954.]

*Minois baroni* [= *Cercyonis pegala*, Large Wood Nymph]: From 1000-4500 feet. Most any clump of quaking aspen in the hills has its population of this, if there is a little damp spot, so much the better. In '55 it came back in good supply after three years of near absence.

*M. oetus* [= *C. oetus*, Dark Wood Nymph]: Flies higher than *baroni*, have never seen the two together; on Harts Pass lives the near black form, *phocis* (sic, = *phocus*). Generally distributed, along the Columbia is found what I called *C. oetus charon* (both now assigned to *C. o. oetus*).

*M. sylvestris* [= *C. sthenele*, Great Basin Wood Nymph]: General range of *C. baroni* [= *pegala*]. Scarce any time.

*Oeneis nevadensis* [Great Arctic]: From Alta Lake to Camp Gilbert, 1000-2700 feet. Flies every two years, possible to find an odd specimen in the off year.

*Oe. chryxus* [Chryxus Arctic]: This starts where *Oe. nevadensis* leaves off, and have taken it up to 8000 feet, on Cooney Mountain. On top of the ridges, it frequents open grassy places, at Salmon Meadows, it stays in the timber or in the roads. Does not seem to be biennial.

*Oe. beani* [= *melissa beani*, Melissa Arctic]: On top of the highest peaks. In 1930 I took eight specimens on Cooney Mountain, later years took a few on nearby Marten and Crater peaks. How far south it goes, would be interesting to know. J. F. Gates Clarke took it on Slate Peak, 7900 feet, 1955.

*Boloria epithore* [Western Meadow Fritillary]: From 2500 to 4500 feet. Camp Gilbert, Salmon Meadows, common wherever found. Mostly in grassy meadows.

*B. titania rainieri* [Arctic Fritillary]: Where *B. epithore* leaves off, this starts in. Up to 7000 feet, about the same surroundings as *B. epithore*, wet places a favorite.

*B. astarte* [Astarte Fritillary]: In July, 1936, Andy Anderson took a single specimen of this on top of Cooney Mountain, and we never saw another one. This should be some sort of U.S. record. [In fact it was the second record in the Lower 48 states. The first was taken in Glacier NP, MT, July, 1923 by Howard Notman (*Bull. Brooklyn Ent. Soc.* 19:197, fide Steve Kohler.)]

*Speyeria leto* [= *S. cybele leto*, Great Spangled Fritillary]: From river level to about 3000 feet. Never saw this in the mountains. July, Black Canyon, Gold Creek, etc. Female very scarce.

*S. rhodope minor* [= *S. hydaspe*, Hydaspe Fritillary]: From 3-7000 feet. Harts Pass, Camp Gilbert, Twisp Pass, etc. East of the Okanogan River, it is found much lower.

*S. simaetha* [= *S. coronis simaetha*, Coronis Fritillary]: So far, I have found this in Black Canyon, Gold Creek, and probably flies in similar country.

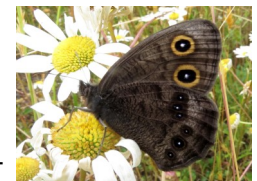
*S. zerene picta*, Zerene Fritillary]: Found nearly all over the district, specimens from higher altitudes seem to be larger and brighter than some from Black Canyon. July. (*S. simaetha* flies earlier.)

*S. washingtonia* [= *S. mormonia washingtonia*, Mormon Fritillary]: In isolated colonies from 4500 feet (Salmon Meadows) to 8000 feet. Mountain meadows, there is a colony on top of Cooney Mountain, which is never found outside a spot 100 yards across. Varies somewhat between colonies. Tiffany Lake, Harts Pass, Crater Lake, Cooney, etc.

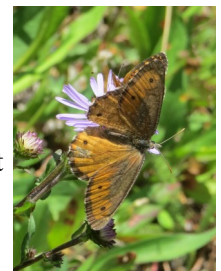
*S. atlantis* [here, = *S. hesperis*, Northwestern Fritillary]: A single colony at Salmon Meadows, have never seen it at any other place. Paul Grey "simply gloated" over this.



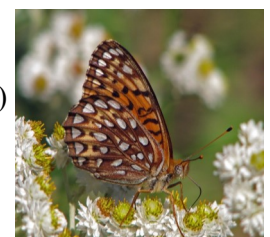
Orange Sulphur. (J. Dammarell)



Large Wood Nymph. (M. Weiss)



Chryxus Arctic. (M. Weiss)



Northwestern Fritillary. (M. Weiss)

## Species Profile: Spring (Echo) Azure

### by Regina Johnson

The Western Spring Azure, or Echo Azure, *Celastrina echo*, is one of the first spring butterflies to make an appearance, and the first of the blues. In my garden it is usually the second butterfly, after the Cabbage Whites. Like most of the other early spring butterflies, it achieves that status by overwintering as a chrysalis, emerging as soon as the weather warms in April or even earlier. It is also known as the Echo Blue. There are a few different species of *Celastrina* that go by the common name Spring Azure, all small blues that appear early in spring. It has a very wide larval host range, the larvae being generalist feeders on flowers and fruits; red osier dogwood in particular is a common host. Other host plants in our area include elderberry, madrone, ceanothus, oceanspray, huckleberries, cherries and other *Prunus*, spiraeas, and bitterbrush. Caterpillars are weird greenish slug-like things with purple patterns, tended by ants. In our area there are usually 2 flights, the main flight season in April and a summer flight in August. Cooler areas of course have only one flight. I like to call it the Spring Azure to celebrate its status as one of the earliest butterflies of the year, but that's a silly name for the summer flights so Echo Azure is a more appropriate name. Being a generalist feeder on such a wide range of hosts allows the Spring Azure to flourish in what are otherwise marginal habitats for butterflies, such as most of Western Washington. You can see it almost anywhere except the most urbanized settings: suburban gardens, larger city parks, greenbelts, commercial timber, rural residential, grasslands, riparian corridors, forest openings ... I see it in my Olympia-area garden and the local parks (*not* athletic fields, those don't count as parks), along logging roads, and in the South Sound prairie reserves. Adults nectar on a wide variety of flowers, and they also like to puddle and mud.



*Celastrina* sp. in Arizona, ovipositing on flower buds. (ALAN SCHMIERER)



*C. echo* on camas, Deception Pass.



*C. echo* mudding. (Rod Gilbert)

“Azure” is a shade of blue, generally a deep sky-blue or the color of lapis lazuli.

The Boreal Spring Azure, *C. lucia*, ranges across Canada but in Washington it appears only in limited areas in Yakima County. It has large dark markings below, but so does *C. echo nigrescens*. It has a similar host range as *C. echo* and a single flight.



*C. echo* mudding. (R. Johnson)

*C. echo* males mudding. (M. Weiss)



*C. lucia*, Lucia's Azure or the Boreal Spring Azure, a female. (M. Weiss)

## 2020 Field Trip Schedule (Subject to Change [now more than ever!])

| Date                 | Destination/Description                                          | Difficulty | Trip Leader                      |
|----------------------|------------------------------------------------------------------|------------|----------------------------------|
| June 4<br>(Thursday) | Hoodsport tentatively still on for now                           | 2          | David Droppers,<br>Melanie Weiss |
| June 6               | Douglas Canyon and Jamison Canyon/Lake                           | 1-2        | Sue Orlowski                     |
| June 13              | Antoine Peak Conservation Area                                   | 4          | John Baumann                     |
| June 13              | Coffee Pot Lake and Twin Lakes                                   | 2          | Sue Orlowski                     |
| June 20              | Hog Lake and Folsom Farm                                         | 2          | Sue Orlowski                     |
| July 8               | Cascade Butterfly Project Field Training, Sauk Mtn.              | 2          | Regina Rochefort                 |
| July 10-12           | WBA Study Weekend, Dayton, POSTPONED TO JUL 9-11, 2021           | Varies     |                                  |
| July 15              | Cascade Butterfly Project Field Training, Sunrise at Mt. Rainier | 2          | Regina Rochefort                 |
| July 18              | Toppenish National Wildlife Refuge                               | 2          | Jim Reed                         |
| July 25              | Bear Creek Mountain                                              | 3          | David James                      |
| August 1-2           | Slate Peak, North Cascades                                       | 3          | Jim Reed                         |
| August 21            | Crystal Mountain Ski Resort                                      | 3          | Regina Johnson,<br>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 larvae 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)

Check our website and Facebook page for last-minute additions (Flash Field Trips!).

### DIFFICULTY RATINGS:

- 1 Easy, mostly by car, minor walking along roads.
- 2 Fairly limited walking, some slopes involved.
- 3 Moderate, 3-4 miles walking with some slopes.
- 4 Difficult, hiking required off road, may have short steep sections, total of 4 miles or so.
- 5 Strenuous, extended hiking on trails with steep terrain, 4-8 miles.

With Covid-19 coronavirus restrictions a reality for the foreseeable future it is imperative that you sign up ahead of time for any field trips you wish to participate in. Leaders may have to cancel, reschedule, or change field trips with little notice. Carpooling is being discouraged at this time, as is the sharing of tools such as nets, binoculars, and viewing jars. And while in the past it was desirable to patronize local businesses, now it is not; so plan on bringing all your food and beverages for the day. Every interaction with a gas pump, ATM, credit card reader, sales counter or cashier has the potential to transmit the coronavirus to the next customer.

A potential weekend field trip to Slate Peak is proposed on August 1-2 at the location best known for Melissa Arctics and Astarte Fritillaries. These jewels fly in late summer in even years. Two years ago we identified 39 species over two days. Contact Jim Reed <jrrstud@gmail.com> or 509 369 2395 if interested in attending, if the coronavirus situation allows. The plan would be to meet Saturday morning at the Mazama Community Center and drive up to the Slate Peak/ Harts Pass area. This is the highest elevation that you can drive to in Washington at over 8 000 feet. The lush mountain meadows harbor fritillaries, blues, whites, anglewings, coppers, skippers, and many more species of butterflies.

## Field Trip Instructions

**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 (1<sup>st</sup> 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.

**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.

## Board Members

|                |                  |  |
|----------------|------------------|--|
| President      | David Jennings   |  |
| Vice President | Mary Schu        |  |
| Secretary      | Hailey Armstrong |  |
| Treasurer      | Regina Johnson   |  |
| At-Large       | Regina Rochefort |  |
| At-Large       | Lora Langford    |  |
| At-Large       | Paulette Murphy  |  |
| At-Large       | John Baumann     |  |
| At-Large       | Jim Reed         |  |
| At-Large       | Melanie Weiss    |  |

## Committees

|                   |                             |  |
|-------------------|-----------------------------|--|
| Science Advisor   | Jon Pelham                  |  |
| Membership        | Reg Reisenbichler           |  |
| Annual Conference | Mary Schu and Lora Langford |  |
| Field Trips       | Melanie Weiss and Jim Reed  |  |
| Programs          | Paulette Murphy             |  |
| Publicity/Website | Carolyn Heberlein           |  |
| Newsletter        | Regina Johnson              |  |