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## CHRYSALIS

The Occasional Newsletter of the Vermont Butterfly Survey

January 2006

Vol. 6 No. 1

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Here's another issue of CHRYSALIS, an irregular e-mail newsletter about the Vermont Butterfly Survey. You're getting this because you have signed on as a VBS volunteer. If you'd rather not receive this newsletter, please reply to this e-mail and asked to be removed from the mailing list. If you are getting this via postal service mail and would like to get it as an e-mail, please provide us with your email to vbs@vinsweb.org. Thanks for joining the survey.

Kent McFarland and Bryan Pfeiffer

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### 1. Summer 2007: The Final Season

We recently received word that we were awarded a 2007 State Wildlife Grant to complete the 6<sup>th</sup> and final season of VBS field work next summer. This final season will concentrate on under-surveyed priority blocks and areas that may contain one of the 16 conservation concern species listed in the state wildlife action plan. Gear up! We need all the help we can get in 2007!

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### 2. Do You Still Have Data Sitting on Your Desk?

We hope that everyone has sent in their data by now, but it is never too late! The sooner we get it, the sooner it is in the database. And this year it is more critical than ever that we get it all in the database quickly so we can assess our block coverage.

Don't forget to fill out your SWG volunteer and mileage form! If you don't have one you can download it on our web page at <http://www.vinsweb.org/vbs/pdf/swgform.pdf>. We use this as an in-kind match for our grant from the state.

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### 3. Have you left VBS?

If you don't think you'll be able to do any more survey work (we hope not) PLEASE take a few minutes to gather and return any of your unused voucher cards and glassine envelopes. Drop us a quick email so we don't send you materials for this season. We need them back. You can mail them to:

Kent McFarland  
Conservation Biology Department  
Vermont Institute of Natural Science  
6565 Woodstock Rd.  
PO Box 1281  
Quechee, VT 05059  
[vbs@vinsweb.org](mailto:vbs@vinsweb.org)

Thanks.

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#### 4. Join the new Vermont Entomological Society Discussion Group on Google.

Here's an opportunity to expand your insect horizons. As many of you may already know, the Vermont Entomological Society is our state's premier organization for the study and appreciation of insects (including butterflies). VES has an awesome newsletter (see <http://www.vermontinsects.org/news.html>), runs exciting field trips and has an abundance of members fascinated with most any kind of invertebrate. (VBS's own Bryan Pfeiffer is the VES president.)

Now VES has its own email discussion group. I'm convinced it will become THE premier electronic bulletin board about insects in Vermont. Even if you're not yet a VES member, you can join the on-line group by visiting <http://groups.google.com/group/Vermont-Entomological-Society>.

But in order to continue using the service, please do join VES. Membership is a mere \$10 per year. You can join by visiting the VES web site at: [www.vermontinsects.org](http://www.vermontinsects.org).

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#### 5. Maine Butterfly Atlas: Phase 2

Last year Maine finished compiling all the historic records they could find for the state in public and private collections and literature. Now they are gearing up for the second phase of their butterfly atlas – on the ground surveys. Taking a trip to Maine in the summer? Bring your butterfly gear! See <http://www.state.me.us/ifw/pdf/mainebutterflyatlasreport.pdf> for the full report.

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#### 6. VBS Summer Biologist Explains Her Thesis

By Jessica Stager

I am that girl you drove past this summer. The one who stood out among the spandex-strapped cyclists, pedaling with heavy green Muckboots and long pants. The girl with a piece of PVC pipe hose-clamped to her bike rack, an indispensable invention that cradled the handle of my butterfly net, keeping it safely away from the back wheel. The net itself waved like a flag in the wind – caught it, actually, like a kite, enhancing my ridiculous appearance as I pedaled like a madwoman, going nowhere. What was I up to, you wondered.

This June, July and August I spent each sunny day pacing transects across several fields of the Champlain Valley, from Swanton to Charlotte, counting butterflies. Each of the fields I visited was managed differently; that is, they were brush-cut or hayed at different times and different frequencies. My mission was (and continues to be) to determine whether a pattern exists that links a field's mowing regime to its butterfly community.

A little background. Most of us will recall the story of 200 years ago when European settlers transformed our Vermont landscape from a rolling blanket of thick, dense forest into an agrarian panorama. The change had tremendous ecological consequences: flooding and erosion increased as

woods were cleared, swamps were drained, and streams were dammed. The wild turkey, beaver, and deer were extirpated due to habitat loss and hunting.

But the spread of agriculture also created new habitat for species whose ranges had previously been limited by the north woods. Vast pastures and hayfields connected Midwestern prairie to coastal dunes, and it didn't take long for new communities of winged wildlife to occupy them. The Dickcissel (*Spiza americana*) spread eastward from the tallgrass prairies in the early 1800s. The prairie subspecies of the Horned Lark (*Eremophila alpestris praticola*) arrived in Michigan and Ontario in the 1870s, New York in the 1880s, and New England by 1891.

Current ranges of many larval food plants suggest a similar route of expansion for grassland-dependent Lepidoptera. For example, it is widely believed that the Regal Fritillary (*Speyeria idalia*), a prairie species, followed its host, the violet (*Viola* spp.), to New England meadows. The Regal Fritillary reached its peak in abundance in New England during colonial times.

Though agriculture continues to play an important role in Vermont's economy and identity, throughout New England grassland area has declined by 60 percent since the 1930's, and a young forest is rapidly erasing signs of the nineteenth century. The turkey, beaver, and deer have rebounded tremendously in recent decades, while grassland birds have become the most threatened avian group in North America, and the Regal Fritillary has been extirpated from all New England states.

Farmland is becoming increasingly fragmented and more intensively managed, and grassland butterflies find themselves trapped on islands of low-quality habitat surrounded by encroaching succession and commercial development. The relatively recent arrival of these organisms has caused some debate over the prioritization of grassland flora and fauna in the Northeast; but this position ignores rates of habitat loss in the Midwest (a region that would presumably be considered grassland species' center of abundance), where original prairie habitat has been reduced by an estimated 80-99 percent. Northern New England's remnant grasslands may provide a critical alternative for many species whose original habitat has all but disappeared.

As amateur and professional entomologists, as naturalists, citizen scientists, concerned environmentalists, and -- above all -- landowners, what can we do to create or enhance grassland butterfly habitat?

Enter a girl and her bike. I believe that one answer may lie in how we choose to manage our remnant old fields -- those that are leased to a farmer for hay or brushhog to maintain a good view. Mowing is, of course, a disturbance that maintains butterfly habitat, but like any disturbance, it also causes some destruction where it occurs. Cutting your field at the "wrong" time may destroy many butterflies during their early, immobile (caterpillar and chrysalis) stages, or cause the dispersal of adult butterflies from a site before they can mate and oviposit. Mowing also has indirect effects on butterfly communities by leveling the unevenness of a field, which butterflies depend on to regulate their temperature and moisture levels.

If we are interested in allowing our fields to serve as butterfly habitat, when is the best time to cut them? Is it possible to manage our fields with an eye toward butterfly diversity? I hope to answer these and other questions this winter as I move through data analysis.

Jessica Stager is pursuing an M.S. in Conservation Biology at Antioch University New England and working for VBS. She studies insect ecology and conservation, landscape heterogeneity and biodiversity, and agroecology, and has worked in each of these areas throughout New England and in the tropics.

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## 7. WEB PAGE PICK : LepTree.net

LepTree.net is an international, community collaboration dedicated to advancing progress toward a phylogenetic tree for all Lepidoptera. Two main initiatives are underway. First, through this site we will provide interactive web tools allowing all lepidopterists to exchange information and coordinate their research efforts with each other. Second, we will carry out three specific projects designed to increase knowledge of lepidopteran phylogeny, as described in LepTree Overview.

LepTree is based in North America and supported by the U.S. National Science Foundation's Assembling the Tree of Life program. LepTree is closely coordinated with the Lepsys initiative based in Europe.

Learn more at <http://www.leptree.net/drupal/about>.

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## 8. VINS Moves Headquarters to Quechee

We are officially in our new building at the VINS Nature Center in Quechee. If you are in the area, stop by and visit us and get a tour of our new space.

The VINS Nature Center is located just 1/4 mile west of the Quechee Gorge on Route 4. From I-89, take Exit 1 to Route 4 West.

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