Missouri Native Plant Society Hawthorn Chapter Newsletter

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The Hawthorn Chapter of the Missouri Native Plant Society Newsletter is published monthly. Send your submissions to:

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Future Activities

Watch email for notices of hikes. We want to visit the new Lycopodium site in Boone Co with the Ellifrits. **Please offer suggestions of your favorite wild walking areas** to Paula or Becky; we will get them posted as soon as weather permits. If you do not communicate by email and have a suggested destination or want notice of a hike, please call Paula to get on the phone list.

March 9: Regular Meeting at 7:00 pm at the Unitarian Church, 2615 Shepard Blvd. There will be a **presentation of the budget**, followed by a discussion, led by Glenn Pickett, about the possibility of offering **grants to the Public Schools**. We will vote on these issues. See information in this newsletter. Snacks are always welcome.

March 19: Lunch with Native Plant Enthusiasts! 11:30 am at the Uprise Bakery at 10 Hitt Street, near Broadway.

April 11: Native Plant Sale at Bradford Farm. 10:00am to 2:00 pm Please plan to help with our booth.

April 17-19: State Board Meeting - Sikeston area

April 19: Earth Day (rain date April 26) 12:00 to 5 pm Please watch for additional information, and make a note on your calendar to come and help with our booth. This is a primary opportunity for us to connect with the public and teach interested individuals about native plants.

May 11: Regular Meeting at 7:00 pm at the Unitarian Church, 2615 Shepard Blvd. **Mike Currier will speak** on Missouri Natural Areas and the plants found in them.

May 29-31: Summer Board Meeting – A joint meeting with the Arkansas Society in Springfield area. This is a stimulating opportunity to have a co-meeting with NPS of another state. Missouri visited Arkansas last spring; seven of Hawthorn joined the gathering. This summer we will host them at some of our premier prairies. This is an occasion not to be missed!!

June: Dedication for Marge McDermott's Memorial

June 18: Bobwhite quail/Native Plant Field Day at Bradford farm. Please plan to help with our booth. We will sell both plants and books.

July 13: Regular Meeting 7:00 pm at the Unitarian Church, 2615 Shepard Blvd. John Dyer will speak on Heirloom Apples and Grafting Apple Trees

Financial report by Paula Peters, treasurer, Page 4 & 5
Thanks to Nancy Langworthy, for her submission to the newsletter this month.

A Message from the Hawthorn President Reblooming a Good Idea!

Submitted by Nancy Langworthy

The Hawthorn Chapter's bylaws assert that our purpose is "to promote the enjoyment, preservation, conservation, restoration, and study of" Missouri native flora and to promote "public education of the value of the native flora and its habitat" and publish related information. How are we doing this? Well, we all probably talk about natives to anyone who will listen, sharing our gardens and prairies as well as our plants. We spend hours at the Hawthorn booths at various local festivals, teaching visitors about the natives we're selling and proclaiming the advantages of growing natives; we offer free pamphlets and sell books promoting and explaining natives and their habitats. We reach a good amount of people this way, no doubt.

Some members have felt for a long time that we can and should do more. So some have spent many hours propagating, clearing, planting and doing all the needful to establish a native area along Stadium Boulevard in Columbia. Others have planted natives along our public access trails, sometimes even with signs identifying the plants. A few have established native gardens for local churches and schools; others have served as unpaid consultants to such efforts. Hawthorn decided some years ago to offer funding to students to attend native plant-oriented meetings, but I'm told that the group was decidedly underwhelmed by the public response to that offering.

At our upcoming March 9th meeting we will discuss another possible way to promote natives: to offer small grants to classroom or school projects that further that Hawthorn Society purpose. Glenn Pickett and Jean Graebner, both former teachers in the Columbia public school system, will present their thinking on how this might all work at this meeting, and I will ask the group to vote on whether or not to go forward with the plan. For those who cannot attend this meeting, I lay out below the key parameters of the plan as it is currently envisioned and the specific questions I'm going to ask the membership to decide that evening. Not attending the meeting means you won't get a chance to ask questions, hear other member's questions, hear the answers and resulting discussions, so I encourage you to try to attend. But, remember: If you can't attend, you may vote absentee on any motion or decision placed before the membership, including this proposal. Just call any one of the officers with your vote prior to the meeting.

The purpose of the grant program would be to increase appreciation and understanding among students and teachers of the important role of native plants in Missouri, and to promote active student involvement with plants of all types through classroom or school activities.

A committee of three or four members (Glenn and Jean plus some volunteers) will receive proposals from teachers, evaluate those proposals, and make the decision to fund or not fund them. The evaluation criteria proposed address how well the proposed activity would likely promote our purposes, directly benefit and actively engage a reasonable number of students with Missouri native plants, integrate with the curriculum, encourage interdisciplinary instruction and also parent/community involvement, and have readily measurable and evaluate-able outcomes. After considerable discussion, I and my fellow Hawthorn officers concur in the recommendation that this first year, if we vote to proceed, the program would award no more than $250 in grants (whether that's five grants of $50 or one of $250, $250 would be the maximum). We are not determined to spend the money in full or at all; it depends on how good the proposals are that are submitted. Winning proposals must include a method for evaluating impact (with regard to Hawthorn purposes), and must submit that information and an itemized accounting of the money we give them by the end of the school year.

Glenn and Jean will present their plan at our March 9th meeting. They've done a lot of preparatory work on this and hope they've addressed the key areas. They have a pamphlet and a document of grant guidelines to show you. They are interested in any feedback or suggestions the membership may have. They do not see this as a "done deal" but as a proposal.

So, the questions to be voted on at the end of our March meeting are as follows:

1. Should Hawthorn Chapter of the Missouri Native Plant Society proceed with a small grants program to Columbia Public School System this coming school year? Yes? No?
2. If yes, then do you agree that the maximum amount of money to be granted in this coming school year will be $250? Yes? No?
3. If no, then what amount do you suggest?

Hope to see you there! Nancy

March 19:
Lunch with Native Plant Enthusiasts!
11:30 am at Uprise Bakery
Hitt Street just south of Broadway

We meet on the 3rd Thursday of the month.
All are invited; please join us.

NPS Members Attend Workshop: Life in the Water -- Water Quality Indicating Insects

Held Monday, Feb 9 at 7:00 PM in the Friends Room at the Daniel Boone Regional Library in Columbia. Presented by Priscilla Stotts, Water Quality Monitor Volunteer/ Stream Team Coordinator with the Missouri Department of Natural Resources. Seven Hawthorn members attended to learn about Damselflies, mayflies, stoneflies, crayfish, and what these critters tell us about the health of a stream. We learned about water quality monitoring methods and how to sign up for the monitoring workshop in April.

Add to your calendar:

Missouri River Communities Network is hosting a workshop series focused on healthy watersheds from January to June 2009. Local guest speakers will be giving presentations on watershed conservation and management issues. These workshops are **FREE** and open to the public, there is no registration required and seating will be on a first come first serve basis. For more information about this series please email Katrina Thomas missouririver@gmail.com or call us at 573-256-2602

Stormwater Mitigation: Rain Gardens & Rain Barrels Tuesday, March 3

Stormwater, its causes, problems, and how rain gardens and rain barrels work to mitigate the negative effects of stormwater runoff. To be held at 7:00 in the Daniel Boone Regional Library in Columbia. Presented by MRCN Missouri Stream Team AmeriCorps Assistants and the Columbia/Boone County Rain Garden Project.

Endangered & Invasive Species in the Mo River Region Monday, April 6

A discussion of local endangered and invasive species. To be held at 7:00 PM in the Daniel Boone Regional Library in Columbia. Presented by John George, Natural Historical Biologist with theMDC.

MO River Flood Plain Ecology: How it all comes together Mon, May 4

A discussion of the ecology of the Missouri River Flood Plain and its tributaries. To be held at 7:00 PM at the Daniel Boone Regional Library in Columbia. Presented by Tim Haller, Park Ranger with the US Fish & Wildlife Service Big Muddy Fish & Wildlife Refuge and Charles Laun, retired Biology Professor with Stephens College.

Community Rain Garden Workshop Saturday, June 6

The workshop will start with a 30 minute presentation on creating rain gardens as a tool for mitigation of stormwater runoff, then we will move outside to participate in creating a rain garden by digging, planting, mulching, etc... in a new community rain garden site. The second part of this workshop will include an outdoor hands on component, so please dress accordingly. Presented by MRCN Missouri Stream Team AmeriCorps Assistants and the Columbia/Boone County Rain Garden Project

Milkweed Oil Tapped for Sunscreen and Other Products

By Jan Suszkiw, 5 Feb 2009 Read more about the research in the February 2009 issue of Agricultural Research magazine. ARS is the principal intramural scientific research agency of the U.S. Department of Agriculture.

Milkweed family is the only food source of monarch butterfly caterpillars. But for some farmers, common milkweed is also a valuable source of floss that can be harvested for use as a hypoallergenic filler for high-end pillows, comforters and jacket linings.

Floss, though, isn't the only useable portion of milkweed. Unsaturated oil in the plant's seed also has potential as a base material for sunscreen, cosmetics and skin- and hair-care products, including moisturizers and conditioners. That's the conclusion Agricultural Research Service (ARS) chemist Rogers Harry-O'kuru drew after analyzing the oil's waxes and assorted fatty acids.

In studies at the ARS National Center for Agricultural Utilization Research in Peoria, Ill., Harry-O'kuru devised a procedure for using zinc chloride to catalyze the conversion of milkweed oil's triglycerides into ultraviolet (UV)-light-absorbing compounds called cinamic acid derivatives.

In tests at the center's New Crops and Processing Technology Research Unit, the derivatives absorbed UV rays in the range of 260 to 360 nanometers--wavelengths that can damage skin. Additionally, the milkweed-oil derivatives accomplished this at very low concentrations of 1 to 5 percent, a range far below that approved for today's topical skin formulations, many of which use chemical fillers or sun blocks.

Harry-O'kuru's milkweed-oil-based sunscreen also contains natural antioxidants such as tocopherols, which are often added to cosmetics as skin-nourishing ingredients. The sunscreen's unique combination of fats and waxes may also qualify it as biodegradable and help keep it from washing off during a swim. Its current form is a clear liquid, but gels, creams, sticks and aerosol sprays are also possible, according to Harry-O'kuru.

Besides skin- and hair-care products, the UV-absorbent base material he has devised could also be tailored for use in epoxies, paints and other industrial applications. ARS has patented Harry-O'kuru's base material and is seeking an industrial partner to develop the technology further.

Helping Nature Heal

By Marianne Edain Frosty Hollow Ecological Restoration, Box 53 Langley, Wa 98260, 360-579-2332 wean@whidbey.net from PCA News 13 Feb 09.

[Ed note: The debate and dilemma is the same for every reconstruction project; you extrapolate information for local conditions.]

One of the biggest problems we have in restoration work is in defining the term "restoration". The first question, of course, is: "restore to what?" We talk about reference sites and reference native plant communities, and that restoration implies bringing a site back to what it once was. So first you need to know what it once was - which begs the question of when it was.

Here in the Pacific Northwest, as in other parts of the country, when white folks arrived, they put a stop to the native practice of burning the prairies. The obvious result was that first shrubs and then trees took over areas which had been kept in prairie for thousands of years. Early in the 20th century our particular area was logged, leaving a very few patches of remnant old growth Douglas fir forest. Much of the historical Doug fir forest grew back. There is a distinctive difference between historical Douglas fir forest and forest which grew on prairie soils after burning was stopped. After the great clearing of the 1880s - 1920s, many former forests were converted to farm land, brush fields, or developed uses.

So, when we talk about restoring a site with prairie soils which grew up in Doug fir forest but is now pretty solid weedy exotic grasses, to what are we restoring it? We could plant a few thousand Doug firs and create another tree farm, or we could slowly and laboriously deal with the soil seed bank of all those exotic grasses and bring back the native prairie bunch grasses and the spectacular camas fields.

In fact, that's what we and some wonderful people are doing on a 150 acre parcel which is the last restorable piece of Northern Puget Trough Glacial Outwash Prairie. It is long, hard, slow, laborious work, and it doesn't pay - except in wild excitement at discovery of yet another small patch of *Brodiea howellii*, returning *Festuca roemeri* in areas where the shrubs have been burned (and occasionally herbicided) out, and the spectacular spring displays which grow year after year as more of the shrubs are removed and the natives find themselves more and more welcome.

Even then, how can we be sure that what we are creating is similar to what was here before the plow? We may know generally what species were present, but can we know their relative abundance? We know, for instance, that the native people ate camas as a staple, and that death camas (*Zygadenus venenosus*) bulbs look very similar in mid-late summer after the stalks have dried, when the bulbs are dug.

We also know that, in order to avoid poisoning, the native people systematically removed the death camas from areas where they harvested regularly. And yet our site has a good deal of death camas. Should we be removing it, as the native people did? To what extent did their harvesting, with digging sticks, break up the soil and provide the substrate for other prairie species? Should we be using digging sticks out there? Should we be harvesting some of the camas and other native food plants out there? How many of them?

So many questions in restoration, and so little patience from the people who own the land and pay the bills. Its so easy to go to the Conservation District nursery and order bundles of trees, and accept all that praise from people who mean well but do not understand the science.

So how do we bring these questions of reference sites and target communities into public consciousness and public discussion?

Financial Report – Year 2008

Submitted by Paula Peters, treasurer

Income – Deposits

$1357.39 Books, Calendars, hats
$1201.00 Plants
$100.00 Marge's Memorial
$450.00 Dues
$3108.39 = Total Deposits

Expenses

$520.00 Marge's Memorial (tree)
$370.00 State dues
0 Travel State Board Meeting
$40.00 Booths
$680.51 Newsletters, stamps, book boxes, handouts
$185.06 Stadium Project
$30.00 Speaker
$790.19 Books, hats, calendars
$45.08 Awards
$100.00 UU Church
$2760.84 = Total Expenses

$3108.39 Income
-$2760.84 Expenses
$347.55 = difference

$347.55 Difference
-$315.00 Remaining in Marge's memorial
$32.55 = profit for 2008

Proposed budget on page 5

Grasslands Sequester Carbon

Submitted by Becky Erickson;
adapted from Hamilton Native Outpost catalog 2009

Below the surface of the soil is an integration of nature that few people understand. It is complete with mammals, insects, microorganisms, plant roots, new sprouts and detritus. This part of Earth is one of the greatest resources for capturing and storing carbon, nitrogen, methane and other greenhouse gasses.

Grasses, especially deep-rooted warm season grasses, are important carbon sinks. Grasses have a superb ability to absorb carbon from the atmosphere, convert it into energy to grow and to store the excess underground. Root structure accounts for over half of grass biomass. Every winter 30% to 50% of the root structure dies leaving the gasses and minerals deep in the soil. [Observe in the diagram that roots are **much ->** deeper than plants are tall.] Every growing season these roots are replaced from the plant crown to transport water to the growing structures and carbon to the roots for energy. This cycle of constant root replacement is the primary source of soil production in grasslands. The stored carbon contributes to the rich dark color of highly organic prairie soils.

Throughout the Earth, the amount of carbon stored in the soil is three times that found in growing vegetation. If this pool is managed properly, this carbon sink is stable and can be encouraged to increase.

Carbon is lost from the soil when it is tilled or when it is planted with shallow-rooted forage grasses which are constantly removed through grazing and haying.

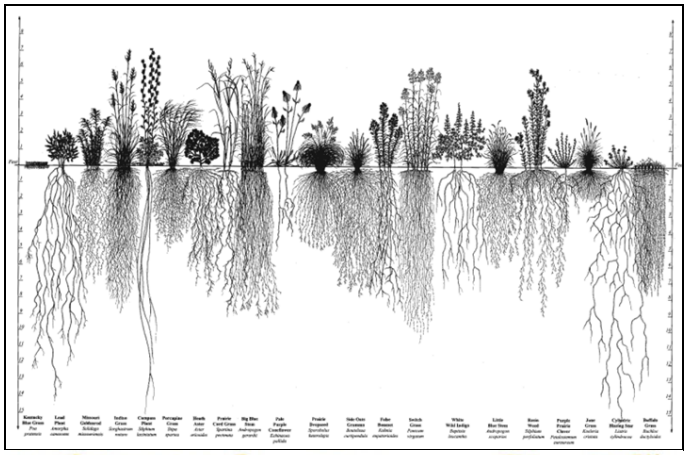
Management to be considered when including appreciation for the carbon sink resource:

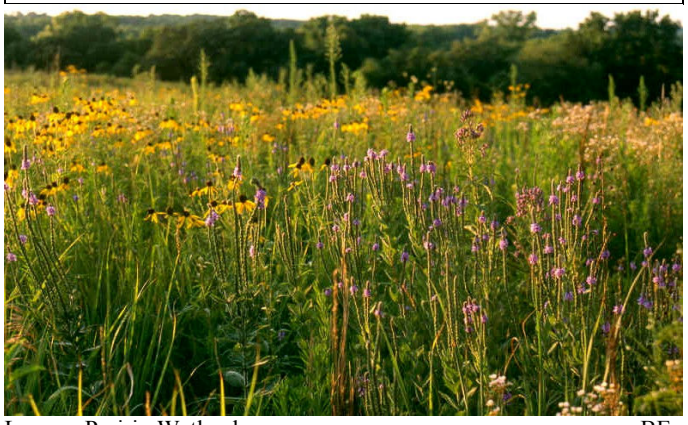
- Establish a **high diversity of native species** in a single area. Each species has its own chemistry and root structure so each will add to the carbon sink effect. Convert marginal, degraded and eroded land into perennial cover from native grassland stock.
- Plant and **encourage legumes** because they absorb and store nitrogen without the need for excess carbon as inorganic fertilizers do.
- If land is needed for grazing, **rotate animals** throughout pastures to allow for renewed growth. Renewed top growth also encourages renewed root growth.
- **Prevent invasion of trees and shrubs** into grasslands. Trees might increase overall plant biomass but they will decrease overall carbon storage by about 40% because their shade decreases the grasslands species' ability to store carbon.

Proposed Budget for 2009

Income
$896.00 Dues
$1000.00 Books & Calendars
$1000.00 Plants
$2896.00 = Total Projected Income

Expenses
$ 50.00 Booth Fees
$450.00 Newsletters & stamps
$250.00 Pamphlets
$560.00 Dues to State
$600.00 Travel State Board Meeting
$800.00 Books and Calendars
$100.00 UU Church
$2810.00 Total Projected Expenses





Lowery Prairie-Wetland BE

Grandfather Prairie BE

Please Step Forward For Service
Please contact one of the officers ready to volunteer a little time to a very good environmental and educational service. We need people to grow plants for fundraising and we need people to man our information booth at events such as Earth Day.

___ Student ($11.00)

___ Regular ($16.00)

___ Contributing ($26.00)

—— Life ($200.00)

Includes both Chapter and State dues.
Make check payable to: **Missouri Native Plant Society.**
Send check and this form to: Paula Peters**,** 2216 Grace Ellen Dr**.,** Columbia, MO 65202

MEMBERSHIP FORM Missouri Native Plant Society—*Hawthorn Chapter*

July 1 through June 30.

Name _____

Address _____

_____

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Do you want to receive email updates between newsletters?
Yes **No**

Method of receiving chapter newsletter:
(circle preference) **Email** **Regular mail**

(Email delivery brings you color photos and it saves NPS money)

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