



President's Message

David Bauer, PSS

The executive Board has met three times in 2011, dealing with budgeting, administration, licensing, and planning future events. In even-numbered years, MAPSS has extra income from workshops. In odd-numbered years, MAPSS spends some of that extra income. So this year, our operating budget exceeds our income. It is sustainable in the MAPSS biennium.

I accepted an invitation to attend the Larson-Allmaras lecture at the University of Minnesota Department of Soil, Water & Climate (SWAC). The event was more than a lecture and featured two speakers on the environmental concerns that have risen as a result of a rapidly expanding use of nano technology in consumer products. Professor Jennifer Kuzma and Dr. Paul Bertsch were the featured speakers. Many nano products, such as anti-microbial silver compounds, do not break down, even with incineration. Instead, they eventually end up concentrating in the soil. A study was reviewed that showed how earth worms will avoid concentrations of the silver in the soil. Later, I sat down to a nice dinner with Dr. Rosen (Head of SWAC) and Paul Bertsch where we discussed nanotechnology, soil science, and the future of both. The lecture can be found at www.swac.umn.edu.

At the request of membership, MAPSS will be purchasing a corporate MOWA (Minnesota Onsite Wastewater Association) membership. MOWA has over 400 members, all focused on the treatment of wastewater, usually through the soil resource. Many MAPSS members specialize in this as well and a closer association will benefit them. When future issues arise in the legislature, it will be easier to work with MOWA to ensure that wastewater is treated in responsible ways. MAPSS gets up to five individual memberships with the corporate membership. See another article in this issue to take advantage of this opportunity.

A soils short movie contest will be organized and sponsored by MAPSS to help raise awareness of soil and to attract new members. It will be called "Lights, Camera, Soil!" Official rules are expected to be completed by September. Contact me if you want to help organize this fun activity at dbauer@ricecreek.org.

Attempts were made to refine the educational requirements behind licensing to be more closely in line with current college offerings. However, the state budget conflict dominated the legislative session and the proposed changes were not acted on.

Five MAPSS members were able to assist in the "Soils Site Investigation for Stormwater



David Bauer at 2011 soil training.

BMPs Workshop" this past Spring. They provided their expertise in the field portion, assisting different groups of stormwater professionals in assessments of two problem soils – compacted and high water table. Though monsoon like conditions flooded the pits, the workshop was a success and will be repeated in the Fall. MAPSS received \$500 from the workshop organizer, Rice Creek Watershed District, for the service.

An outstanding summer is in the works and will be covered in detail later in this issue. If state budget problems are delaying your ability to pay for the tour, please contact an executive committee member and we will consider other arrangements. After hearing about the tour from organizer Steve Lawler, I am really looking forward to it.

The Auger



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Mark Your Calendars!

- August 5, 2011—MAPSS Summer Tour in Chatfield, MN. Don't miss this one! The registration form is attached.
- Geologist conferences in September and October.
- More events on page 12.

Ecosystem Services — From a Soils Perspective

Terence H. Cooper

Professor, Soil, Water and Climate Department, University of Minnesota

This paper is a reflection on my recent stay in the United Kingdom where I spent ten weeks learning about soils and land use in various parts of England, Wales and Scotland. I used my army shovel and soil probe to look at soil profiles which any soil scientist always wants to do when in a foreign land. I stayed on ten farms so I could talk to farmers about their soils, land, and agricultural practices. I also visited with scientists at three universities and two government scientists in London and Edinburg to learn about how they view the future of their soil. I also wanted to explore the land and learn more about a place that has had human impacts for over 4000 years. In the process I discovered the importance of *Ecosystem Services* provided by soils.

Each country of the United Kingdom has a separate soils program. In England with a population of 51 million and 50,350 square miles the program is called “Safeguarding our Soils”, or all soils are managed sustainably and degradation threats are reduced. Scotland with a population of 5 million and 30,100 square miles calls their program “Scottish Soil Framework”. This program recognizes soil as one of the nation’s greatest assets and sets out a vision for soil protection. Wales has a population of 3 million and 8000 square miles of land has a “Consultation Report on Soils”. This report increases awareness of soil in the environment and the impact of development on the natural soil resource. The total area of England, Wales and Scotland is around 88,0000 square miles compared to Minnesota’s 86,943 square miles (7000 of water) with a population of 5.3 million. The United Kingdom is a small island with a lot of people who are very concerned about their soil resource.

Every soil has a history and the history of soil in the United Kingdom is complex, yet by looking at the soil today we can infer the past and speculate about the future. The future of soils in the UK depends on soil being connected to the Ecosystem Services that the soil provides. On Bryn Sion farm in Central Wales the farmer is 4th generation on the farm which is located in the Southern Snowdonia National Park (Fig. 13). The glaciers that were at their peak 18,000 years ago in Snowdonia scoured out U-shaped valleys including the valley of the Cywarch River, the floodplain for soil site 3. The valley was once heavy with industry as lead mines were on the hillside and water mills on the valley floor in the 1700s. Farmers in the area, until 1850s, used to move up the mountains with their livestock in the summer and back to the valleys in the winter, this system was called transhumance.

The 700 acre farm occupies the east side of the steep sided Cywarch River valley (see Fig 5.) Farm elevations are from 110 m to 200 meters. The farm has been in the family since the 1800s. Current owner’s great grandfather was the original owner. The farm raises sheep and cattle and most fields are used for pasture. Some of the less steep (<30% slope) fields are renovated by plowing, leveling and seeding. The farm has been organic for 10 years. Fertilizer used would be a mixture of rock phosphate and crushed sylvite (KCl). Lime is applied before seeding grasses at the rate of 3 tons per acre.



Figure 1. Bryn Sion Farm, Central Wales, Snowdonia National Park, Site 3. The building was built around 1700 and abandoned in 1900. This floodplain is currently used for pasture but was probably used as early as 1000 for the same use. It has been used for cropland numerous times in the past 2000 years. Soils in the uplands formed from glacial till, colluvium, and residuum from slate.

Ecosystem Services — continued



Figure 2. Bryn Sion Farm looking east from Figure 1.



Figure 3. Soil at Site 3, formed in the flood plain of the Cywarch River.

Soil 3 - 105 m elevation -about 300 yards east of site 2. In in the creek bank of the flood-plain. Creek is 5 feet wide and 1-3 feet deep with crystal clear water. Creek pH = 6.5 ; Vegetation is grass, sedges and scattered trees.

Hor.	Depth	Texture	% gravel	%Clay	Color	Structure	pH	Other
A	0-4 in.	Loam	3	16	10YR3//3	2 gran Fr	4.5	Many roots in horizon
Bg1	4-14	SCL/Loam	5	18	5Y 4/2	1sbk fr	4.5	mcd rmf conc
Bg2	14-30	Sandy Loam	10	16	2.5Y 4/1	1sbk fr	4.5	MC rmf conc
C	30+	Gravels of stream deposit - no soil between gravels.						

The farmer understands that adjusting pH is critical for phosphorus uptake. Some years a small field <5 acres will be planted to rape (canola) for forage for the lambs to fatten them before their sale.

The main soil problems on this farm are soil erosion on cultivated fields and low pH on other fields. Parent material is low is bases and precipitation is >40 inches/year. Maintaining organic matter on cultivated fields is an important management decision. While visiting Professor John Scullion at Aberystwyth University his data indicated that most surface soils in the region have high organic matter levels (7-10%) that aid in soil structure and water infiltration. However, soil colors did not seem to reflect this high of a level of SOM.

Ecosystem Services – continued



Figure 4. Soil 1- Bryn Sion Farm.



Figure 5. Bryn Sion Farm, topography map and soil site locations.

Soil 1. 130 m elevation - 40% slope, backslope, site was road cut under the fence, 500 yards from creek valley - Site position – upland; Parent Material is colluvium and residuum (slate), land use – pasture.

Hor.	Depth	Texture	% gravel	%Clay	Color	Structure	pH	Other	
A	0-3 in.	Loam	3	20	10YR4/3	3 gran Fr	4.5	Many roots in horizon	
Bw1	3-7	Loam	5	20	10YR4/4	2sbk fr	4.0	mcd rmf dep	
Bw2	7-14	Loam	10	23	10YR4/4	2sbk fr	4.0	f c rmf conc	
Bw2	14-30	Loam	15	23	10YR4/4	2sbk fr			
R/Cr	30+	90% Rock with Loam in Rock fractures. (Slate)							

Soil Protection Review (SPR) is a UK government program to strengthen soil protection on farmlands. This payment scheme for farmers keeps many in business as the price of wool seldom pays for the shearing and the price of lamb is usually below cost. So why are they getting paid to farm, when it would be cheaper for the government if they went out of business? That’s where the ecosystem services come into play.

The local paper reported that 97 percent of the Tir Mynydd claimants received their (SPR) payments in March. They received 10,655 applicants. The Tir Mynydd scheme is available to Welsh farmers who farm in the ‘Less Favored Areas of Wales’. This pays them a supplement for farming, for example for farms with 140-640 hectares, the payment would 16-18 £/ha.

“Decisions about the natural environment should take full account of the impact on soils, their intrinsic character and the sustainability of the many ecosystem services they deliver”; this statement is from Natural England. Environmental Stewardship is also another agricultural environmental scheme that pays farmers and other land managers in England for promoting ecosystem services that help wildlife, global warming, runoff, water quality and the rural environment.

Ecosystem Services — continued

Ecosystem Services that are provided by the soil.

Supporting:

1. Primary production — Support for terrestrial vegetation
2. Soil formation — Soil formation processes
3. Nutrient cycling — Nutrient storage, internal nutrient cycling, and processing of nutrients

Provisioning :

4. Refuge — Providing habitat for resident and transient organism populations
5. Water storage
6. Platform Supporting — Structures
7. Food supply — Provisioning for crops and livestock
8. Biomaterials — Provisioning plant growth - timber, fiber, fuel
9. Raw materials — Provisioning source materials, topsoil, mineral, aggregates, peat
10. Biodiversity and Genetic resources — Sources of unique biological materials

Regulating:

11. Water quality regulation — Filtration and buffering of water, Potable water for human consumption
12. Water supply regulation — flooding, drought
13. Gas regulation — Regulation of atmospheric chemical composition
14. Climate regulation — Regulation of global temperature, precipitation, and other biologically mediated climatic processes
15. Erosion control — Soil and colloid retention within an ecosystem

Cultural :

16. Recreation — Providing a platform for recreational activities
17. Cognitive Opportunities for noncommercial Activities — aesthetic, education, spiritual, scientific value
18. Heritage — holds archaeological record of terrestrial occupancy and civilizations

Farmland in the UK is not just farmland. The land provides a view-shed for all who travel the roads and walk the trails. In the UK you can walk just about anywhere you want to go and trails will be provided that transverse the farmland, stiles provide a way to cross the fences and the animals are used to humans crossing their pastures. However, you can only fish in the ocean or areas in streams at the mouth near the ocean. Inland streams and lakes are controlled by the landowner and permits from them are required for fishing.

Ecosystem Services — continued

So the soil is a valuable resource because of the ecosystems services provided. Going back to the soils on Bryn Sion Farm, they provide the following as it relates to the list of ecosystem services:

Supporting:

1. Primary production – Pasture, forest, and gorse in the uplands.
2. Soil formation – Unique soils from colluvium, alluvium, glacial till and slate bedrock.
3. Nutrient cycling – Storage of N and P from animal wastes left on the land.

Provisioning :

4. Refuge – Habitat for resident organism populations including worms and microbes.
5. Water storage – Reduced runoff and downstream flooding due to soil water storage.
6. Platform Supporting – Supports the buildings of the farm and road to the park
7. Food supply – Crops and pasture support the livestock and the farmer's family.
8. Biomaterials – Forests on the farm provide fuel and building material.
9. Raw materials – source materials include slate rock for roofing and roads.
10. Biodiversity and Genetic resources – Unique biological materials.

Regulating:

11. Water quality regulation – Filtration and buffering of water, Potable water for human consumption
12. Water supply regulation – Flood reduction due to soil water storage.
13. Gas regulation – CO₂ storage in uplands as SOM increases.
14. Climate regulation – Regulation of global temperature, precipitation, and other biologically mediated climatic processes.
15. Erosion control – Pasture lands retain soil particles within an ecosystem

Cultural :

16. Recreation – Providing a platform for recreational activities such as hiking.
17. Cognitive Opportunities for noncommercial Activities – aesthetic, education, spiritual, scientific value.
18. Heritage – Holds archaeological record of terrestrial occupancy and civilizations such as historical buildings and evidence of ancient agriculture.

Ecosystem Services — continued

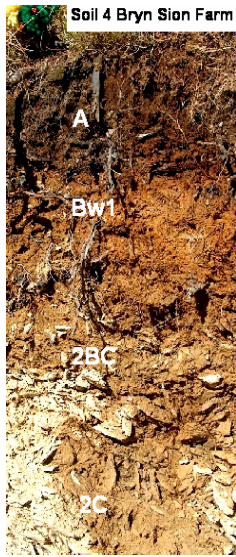


Figure 7. Bryn Sion Farm Soil 4.



Figure 6. Bryn Sion Farm Soil Site 4, Colluvium over residuum. Trees on site are 60 to 80 year old Douglas fir and larch.

Soil 4 - 150 m elevation- Site 4 is 800 yards above the house on the trail leading up the canyon of a small creek. Parent material is colluvial/alluvial deposits on a small (400 x 800 yd.) bench (alluvial fan) that is below the very steep uplands, that are bedrock controlled. Site position is footslope with 40% slope Vegetation - 60-80 year old Douglas fir and larch. Sphagnum moss and bracken fern understory.

Hor.	Depth	Texture	% gravel	%Clay	Color	Structure	pH	Other
A	0-6 in.	Loam	10	16	7.5YR3//2	2 gran Fr	4.5	Many roots,, high om
Bw1	6-15	Loam	15	15	7.5YR4/6	1sbk fr	4.5	mcd rmf conc
2BC	15-24	Loam	80	17	10YR4/6	0 ma stl fr	4.5	
2C	24-99+	95% slate Rock with Loam in Rock fractures. (Slate)						

Ecosystem Services — continued



Figure 8. Head of Cwm Cywarch Valley, about 3 miles north of Bryn Dansi Farm. This area is an old industrial valley. In the past there were lead mines on the hillsides and mills on the valley floor. Ecosystems services are numerous in this scene.

Hiking in the area of Bryn Sion farm was easy to accomplish. We went to the head of the Cwm Cywarch Valley. This industrial valley was populated in the 1700s. Lead mining was the main activity in the hills and sheep were raised in the valleys during the winter and uplands during the summer. Today we see the remnants of this early Welsh village, old dry stone buildings, abandoned mines and dry stone walls. The use of local stones for dry stone construction (no cement to hold the stones together) was an art that can be appreciated today when the walls and fences are still standing 300 years later.

Ecosystem Services — continued



Figure 9. The creek in view is flowing south and coming from the headwaters of the Cywarch River. Pam and I are looking south down the CymCywarch Valley.

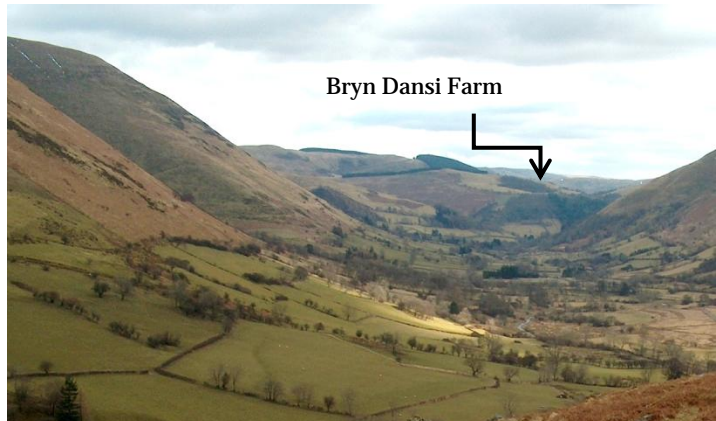


Figure 10. Looking south down the Cym Cywarch Valley. All areas in the view are used for sheep pasture. Bryn Dansi farm is near the arrow.

Cwm Cywarch is one of the most beautiful valleys in Snowdonia and is just over two miles in length. The head of the valley is dominated by the huge crags of Glasgwm, towering over the grassy car park. The trail we are on in Fig. 9 is the route to the summit of Aran Fawddwy which rises to a height of 905 metres (2, 790 feet) and is the highest Welsh mountain south of Snowdon. The scenery is superb with deep valleys and rolling hills the main characteristic of the area.

When you reach the upper valley, you can look over into the next valley and mountains to the north (Fig. 11). Aron Fawddwy can be seen to the south east if the sky is clear. On our hike Aron Fawddwy was blanketed in clouds. We traversed the upper meadow and found lots of thick peat soils in the lower areas (Fig. 12). The peat also extended up the mountain sides. With global warming there is much concern about losing this stored carbon in the highlands. We stopped for lunch and enjoyed the views and continued up. Soon it was near 3:00 pm and time to head back without finding the summit. On our way down we meet two hikers, the first of the day for us, since it is March 13, and not the prime hiking season. We visit for a short while and they note we are not from around here, the typical comment when an American accent is noted. I tell them I was looking for Iowa, but seemed to make a wrong turn. They have a good chuckle and of course note that they have been to Orlando Florida for a vacation. Since they came in January, I tell them next time come to Minnesota in July for a look at the real America.



Figure 11. Looking north at the meadow in the headwaters of Cywarch River. The area viewed is mostly organic soils. The snow was 2-3 feet deep in some areas.



Figure 12. The soil in the pit is peat with rock fragments. The peat is about 30 inches thick over bed-rock.

Ecosystem Services — continued

We continue our hike down the trail and back to the car park. It was more difficult going down the same trail as our legs were tired and the steep areas required considerable care to avoid slipping and falling. We were not as good as the sheep that were watching us. We got back to the car park at dusk, so it was good timing that we turned back when we did. The long day of hiking made the lamb stew for dinner a great reward. The ability of the soil to provide ecosystem services for the citizens of the UK, also give them a great reward. The question of the soils being able to maintain their service to society in the future is the question yet to be answered.



Figure 13. Map of Wales and location of Bryn Dans Farm (X).

Managing food production and Phil Haygarth, Environment Centre, Co-Director, Center for Sustainable Water Management. Lancaster University notes that what is needed for the soil's role in ecosystem services to receive the rewards it deserves is the following:

- Manage food production and phosphorus fertilizers sustainably
- Manage soil for clean water (and air)
- Develop new ways of cross discipline working, communities, networks, and communication.
- Nurture integrated ecosystem thinking and value of ecosystem services
- *Must* raise national awareness and get the public interested.

The soil is playing a key role ecosystem services. The knowledge of soils needs to grow and be maintained in our universities. Haygarth (Haygarth and Ritz, 2009) notes that there is a national 'needs' for soils and land use planning in the UK:

1. to maintain the science and knowledge base, education and investment
2. to manage soil for multi-functionality and so critical tipping points are avoided
3. to map soil services and functions
4. for a soils observatory that builds communities, inventories and the provision for flexible and unified databases
5. for prediction frameworks.

I would note that we see the same needs in Minnesota and across America for recognizing the importance of connecting soils to ecosystem services. As our educational system and our governmental agencies reduce the emphasis in soils and the research for more soil knowledge, our ability to maintain the role of soil in ecosystem services will be reduced. MAPSS is providing an important conduit of information from the current research and educational system to the practicing soil scientist in the field, who sees soils in action every day in its role in the ecosystem.

Ecosystem Services — continued

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Executive Director Update

Board of AELSLAGID

PSS licenses will need to be renewed by **June 30, 2012**. You have to renew your PSS license in order to not practice soil science. When you renew, please make sure you have your CEUs before renewing and that you keep supporting information for those CEUs. If you check the box and don't have your CEUs, then you are committing fraud. If you have questions about your CEUs, please read Minnesota Statutes 326.107 (https://www.revisor.mn.gov/bin/getpub.php?pub-type=STAT_CHAP&year=current&chapter=326#stat.326.107.0). Everything you need to know is there.

The dates for the next fundamentals and professional soil science exam have not yet been posted on the Board of AELSLAGID website.

The Board continues to review the model law for geoscientists to determine if any changes are needed. Geoscientists do not have a provision for "work under direct supervision." The remaining board meetings for 2011 are on May 2 (ELSGEO section and full board), June 9 (full board), August 4 (ELSGEO section and full board), September 9 (full board), October 14 (ELSGEO section and full board) and December 2 (full board).

There are 90 professional soil scientists licensed in the State of Minnesota in June, 2009. Other professions licensed by the Board of AELSLAGID consist of: architects (3,352), professional engineers (11,721), professional land surveyors (586), landscape architects (412), professional geologists (560) and certified interior designers (758).

Legislature—2011 Session

The Minnesota State legislative session began on January 4, 2011 and ended in May. The website for the state legislature is: www.leg.state.mn.us.

Joint Professional Committee

Do you know that the JPC, which is made of up people representing the groups that make up the Board of AELSLAGID, has been around for over 35 years? The next JPC meeting will be after the summer ends and is held at the AIA offices in the International Market Square building in Minneapolis.

Upcoming Events

August 5, 2011

MAPSS Summer Tour

Chatsfield, Minnesota

Online registration is OPEN! Go to

www.mnsoilscientist.org

The registration form is attached.

September 11-14, 2011

AIPG-AIH National 2011 Conference—Geosciences: The Road to Sustainable Future

Bloomington, Illinois

<http://www.aipg.org/2011/AIPG-AIH.htm>

October 9-12, 2011

Geological Society of America Annual Meeting & Exposition

Archean to Anthropocene: The Past is Key to the Future

Minneapolis, MN

www.geosociety.org/meetings/2011/

December 3, 2010

MAPSS Winter Technical Event

St. Cloud, Minnesota

www.mnsoilscientist.org

Register for the next fundamental or professional soil science exams by at <http://www.aelslagid.state.mn.us/>

A Perfect Storm

Gary Elsner, PSS and Jim Balogh, PSS

At our last annual MAPSS meeting, December 3, 2010, we discussed several events in which MAPSS could participate to our benefit and the benefit of all soil scientists in the State of Minnesota. The upcoming events and gatherings of soil scientists in Minnesota present an excellent opportunity for MAPSS to advance our mission and goals. Many of these goals have languished because of the lack of opportunity, or lack of will? The MAPSS mission includes:

1. Highlighting the importance of soil for the general public.
2. Educating the public and our government officials about the importance of soil and its relationship to agricultural production, water quality, and environmental quality.
3. Rejuvenating interest in the University of Minnesota Department of Soil, Water, and Climate with MAPSS and practicing professionals.
4. Gathering momentum and interest in soil science as a career & the need to be licensed.
5. Providing an excellent platform for passing legislation in Minnesota designating the MAPSS State Soil as the official Minnesota State Soil.

The series of events in which we should participate were discussed at the winter MAPSS meeting. These ongoing opportunities are:

1. The Centennial Anniversary of the Department of Soil Science (now Soil, Water, and Climate) occurs in 2013. The current department head and professor, Dr. Carl Rosen, strongly encouraged MAPSS to participate in this celebration.
2. MAPSS 40th Anniversary coincides with the Department Centennial Celebration in 2013, which is an unparalleled opportunity to reinvigorate our relationship with the Department. MAPSS has the members who can demonstrate the importance of a career in soil science as practicing professionals.
3. With these anniversary celebrations and after a brutal bipartisan year in the Minnesota State Legislature this could be a good opportunity to have 2013 declared as the "Year of Soil" in Minnesota. With a relatively new governor (Gov. Mark Dayton) and new Department Head (Prof. Carl Rosen), this would be an opportunity for passing revenue neutral legislation beneficial to MAPSS and the Department. Not only could we have a "Year of Soil" declared, but we could include passage of an official Minnesota State Soil, Lester.
4. MAPSS and the Department could also cooperate on bringing the Smithsonian Soils Exhibit to the Bell Museum in 2013. This is another gale of opportunity for education and promotion of soil science in Minnesota. This is currently under discussion at the University of Minnesota.

All of these items represent what looks like a perfect storm of soil related activities. Tying these events and opportunities together would bring the major soil science groups in Minnesota together including the Department of Soil, Climate, and Water (needs students), MAPSS (needs members and more licensee), and potentially the USDA NRCS (wants an official state soil). We could in theory all work together toward common goals while celebrating important anniversaries. This is the perfect excuse for establishing a state soil or declaring a year of the soil. The celebratory nature of events could make all of these goals easier to accomplish.

It is not too early to start discussions and planning for these accomplishments. We could dedicate the net return from the 2010 SSTS Soils workshop and the 2012 SSTS Soils workshop being organized by James Balogh as fundraising for the soil science lobbying at the legislature, promotion, and educational materials. This would be a great opportunity for MAPSS committees (professional, education, scholarship) to combine efforts and energize interest in MAPSS and our profession.

Please forward our and your thoughts to the MAPSS Executive Committee. We believe our excellent winter meeting also generated enthusiasm inside and outside of MAPSS. We can keep this going for the benefit of all soil scientists and soil & water our most precious resources.

Online Registration is OPEN for MAPSS!

Due to the amazing help of Larissa Schmitt and Jim Balogh, you can now register online for MAPSS events! We have chosen to use PayPal as our online ordering payment system.

- You do not have to have a PayPal account in order to use this system.
- You can pay using Visa, MasterCard, Discover and American Express.
- If you have a PayPal account, you can pay using your checking account.

You will be able to renew your dues online soon (October). Yes, you can still register for events and pay your dues by sending in a check and printing out the registration and dues renewal form.

Feel free to send any comments to Larissa or to Suzanne. Thanks everyone!

The screenshot shows a webpage titled "2011 maps summer tour!" with a registration form. The form includes fields for "Date" (Friday, August 5, 2011), "Location" (Chatfield, Minnesota), "Meeting" (Lectures with a break for lunch), and "Registration Form" (link to registration form). Below the form is a description of the tour, mentioning karsted geology and soil resources of southeast Minnesota. At the bottom of the form, there is a dropdown menu for "2011 MAPSS Summer Tour Registration" with a value of "MAPSS Member (before July 21) \$50.00" and two buttons: "Add to Cart" and "View Cart".

MOWA Opportunities

David Bauer, PSS

As part of the MAPSS corporate membership to MOWA (Minnesota Onsite Wastewater Association), we get up to five individual memberships that will be available to MAPSS members. The Executive committee will appoint MAPSS members to be a part of MOWA. If you want to be considered, send an email to David Bauer at dbauer@ricecreek.org with a short letter of interest. Appointed members will also automatically serve on MAPSS SSTS committee. Appointments are annual. First appointments will be made in late July or early August for the remainder of 2011.

Articles for the Autumn issue of the Auger will be accepted through

October 15, 2011

newsletter@mnsoilscientist.org

ARCPCS continuing education now requires **1 CEU of ethics training** every renewal period (pg. 32 and 34 of CSA News January 2011).



affiliated

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MAPSS promotes the understanding and wise use of Minnesota's soil resources.

www.mnssoilscientist.org

The Auger is the newsletter of the Minnesota Association of Professional Soil Scientists. It is composed of articles submitted by the MAPSS membership and is published three times each year (February/March, June and October). The Auger is available in PDF format on our website at www.mnssoilscientist.org.

If you want to contribute articles or announcements contact the editor, Suzanne D'Souza, at 612-741-1365 or newsletter@mnssoilscientist.org.

MAPSS Officers – 2011

President David Bauer, PSS
President Elect Steve Lawler, PSS
Past President Michael Whited, CPSS/SC, PWS
Secretary Janine Anderson, PSS
Treasurer Larissa Schmitt, PSS
Exec. Secretary Suzanne D'Souza, PSS (ex officio)

MAPSS Representation – 2011

Board of AELSLAGID and the Joint Professional Committee – Suzanne D'Souza, PSS

Soil Science Board Member on the Board of AELSLAGID – Peter Miller, PSS

Advertise in the Auger

Classified - first 40 words \$5.00, then \$0.20/additional word. Position (free to MAPSS members) – same as a classified ad. Ad copy MS Word ready format is \$15.00/column or non-standard \$25.00.

Your advertisement will also be added to the MAPSS website for the duration of one issue of the Auger. Contact the editor: newsletter@mnssoilscientist.org.

The Executive Committee meetings are public. Email the MAPSS president at president@mnssoilscientist.org if you want to attend the meeting. These meetings are typically held in person and via conference calls.

September 14 and November 10, 2011

MAPSS Committees

Award Committee – in 2011

Jorja DuFresne, PSS

Education Committee

Doug Miller, PSS – Chair
Peter Hartman, PSS
Howard Hobbs, PG
Thomas Jackson, PSS
Al Gienke, PSS
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Steve Lawler, PSS
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Election Committee – in 2011

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