

Shawnee Trails

News of the Shawnee Group — February 2004

Explore, enjoy and protect the planet



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Shawnee Group Event Calendar

February 5 ~ ExCom meeting @ McClure's, 5:30.

February 12 ~ Membership program, at the Carbondale Township Office, 217 East Main St., 7:30 PM. A social hour will be held at Bisani's Coffee House @ 5:45.

February 29 ~ Newsletter folding @ Lawrence's, 5:30.

Babes in the Woods *

There is no reason to ever be lost in the woods or anywhere else in the world. At the February membership meeting, presenters Bill Boman and Bob Pauls will prove that orienteering is not difficult, if you keep your wits about you, and especially if you know how to use a compass and map or a portable Global Positioning System (GPS) device. They will cover the basics of orienteering, map use, as well as, the selection and use of compass and GPS devices.

The meeting will be held on February 12th at 7:30 PM at our new meeting location: the Carbondale Township Office located at 217 East Main Street in Carbondale. Admission is free and free public parking is available behind the Carbondale Township office and nearby. The public is welcome to attend the member meeting and all Sierra Club meetings and outings.

In addition, every meeting is preceded by a social hour/dinner at a nearby restaurant. This month the dinner will be at Bisani's Coffee House in the Bening Building at 201 East Main Street, Carbondale. * **Song lyrics on page 8** ☞



Adopt a Library Program

By Bob Pauls

Starting with the first issue of 2004, **Shawnee Trails** is now being distributed free of charge to ninety-six publicly supported libraries throughout Southern Illinois. From Ashley to Zeigler, Illinois, public library patrons now have a clear choice from where to get their news about the environment and the good works being conducted by the Sierra Club — the nation's largest environmental organization.

The Shawnee Group can't afford to send newsletter copies to the more than 65 public high schools in southern Illinois. In addition, we can't provide free subscriptions to **Sierra Magazine**, the wonderful, bi-monthly, full-color publication that members receive as part of their annual membership dues to the Sierra Club. This need not be the case.

The Shawnee Group has launched an Adopt-A-Library Program to allow members to support these local libraries. Contributions of \$6 for the Shawnee Group newsletter and \$12 for Sierra Magazine, will allow us to send these educational publications to the school of your choice. To contribute to the Adopt-A-Library Program, you can either complete the donation form included in this issue (page 12) or securely pay online using PayPal at our website: <http://illinois.sierraclub.org/library/adopt.htm> ☞

Annual Stone Soup Gathering a Great Success By Bob Pauls



Photo: Don Lawrence

The 2004 Stone Soup gathering on January 1st was once again a great success with over 30 people coming together to share their tales of the lands and people they have met throughout their journeys. After the food was shared, many in attendance went on a short hike in mild weather on a Giant City State Park trail to see the park's winter surprises.

For those not familiar with the "legend of the stone soup" upon which the Shawnee Group's annual gathering and monthly environmental activities are based, read about the stone soup legend on page 3. ☞



Message from the Shawnee Group ExCom Vice-Chair and Political Chair

Bob Pauls

This January, I was fortunate to have been elected first to the Executive Committee (ExCom) and then as Vice-Chair of the Shawnee Group. I now have the honor of helping lead the most dynamic environmental organization in Southern Illinois. As many of you know, the ExCom has many challenges in the coming year. My tasks will be to help better deliver our message to the public, expand our influence with voters and elected officials, and rally support for the Sierra Club's priority issues on both the local and national fronts.

The Sierra Club's biggest priority in 2004 is to educate and motivate the public to end the systematic and reckless assault on the environment by irresponsible corporations and the Bush Administration. Since this is also an election year, we must respond to politicians and candidates who will make empty promises to the public and backroom deals with enemies of the environment. We must support good candidates. Each of us must invest time and money to study issues, attend meetings, and write letters. We must consistently address the many environmental issues that affect downstate Illinois.

There is a better way

In this Shawnee Trails Newsletter, the monthly membership programs, on our website, and at special events, we must affirm what the public already believes: a combination of common sense, commitment, and American ingenuity will enable the country to solve all its environmental problems.

You can expect the Shawnee Trails Newsletter and website to pursue five main strategies:

1. Raise public awareness about the environmental record of local, state and federal administrations,
2. Clarify the impact of bad policies and strategies that decrease our health and safety,
3. Identify how government and "big business" are avoiding their responsibility for protecting our air, water and food,
4. Affirm our common values, hopes and aspirations; and talk about the solutions that prove there is a better way.

Please join us to make a difference. ☪

Bush Administration Bad For Babes

Newborn or adult, we all need clean, healthy air to breathe, but the Bush Administration:

- ☪ Is systematically weakening clean air laws that have been proven to protect public health. Since 1970 when the Clean Air Act was passed, major types of air pollution have dropped by an aggregate of 48%. (EPA: See <http://www.epa.gov/airtrends/>)
- ☪ Is letting polluters shirk their responsibilities despite ample evidence of the relationship between power plant air pollution and lung cancer, heart disease, stroke and asthma. http://lungusa.org/air/pdf/ozone01_rep.pdf (smog) http://lungusa.org/air/pdf/pm01_rep.pdf (soot)
Fact: The Journal of the American Medical Association, 03/2002, says power plant pollution contributes to lung cancer, heart disease and stroke — just like smoking.

In addition, the Bush administration has refused to require old coal fired power plants to modernize and cut pollution. They have been "given a pass" by the deliberate weakening of existing law that had previously required old and obsolete power plants to install modern pollution control equipment.

The Bush administration has also lobbied to weaken the current Clean Air Act so that our homes and communities are a greater risk from increased soot, smog and mercury.

- ☪ In 2002 forty-four states issued fish consumption warnings because of unsafe levels of mercury. The EPA and the National Academy of Sciences estimate that approximately 60,000 newborn infants annually may be at risk for neurological damage from exposure to mercury while still in the mother's womb. (EPA: National Listing of Fish and Wildlife Advisories. EPA-823-F-02-007. May)

Thirty years of effective air pollution laws have taught us that the law works for Illinoisans. So why is the Bush administration putting our families and communities at risk?

There is a better way. Enforce the law! Hold all polluters accountable and require them to use today's technology to protect our health and safety. ☪

The combination of technology, enforcement and forward looking political leadership will protect our children's natural inheritance.

The Legend of Stone Soup

There exists a legend, handed down from times long ago, of two travelers on a pilgrimage. Hungry and tired from a long day's journey, they come to a small, impoverished, medieval village, where they decide to rest by the side of the road. One of the travelers builds a small fire, upon which he places a large pot, while the other, having drawn water from the town well, fills the pot and places into the vessel a simple stone. As the two men sit by the fire, bringing their "stone soup" to a boil, the local villagers become inquisitive of the curious antics of these strangers. Eventually, several townsfolk decide to investigate the matter and approach the two travelers to engage them in conversation.

Shortly thereafter, there is heard the sound of merriment, as the visitors, who turn out to be quite friendly, share their tales of the lands and people they have met throughout their journey and pilgrimage with the local villagers.

Finally, a young boy asks the travelers "But why, pray thee, are you boiling a stone?"

One of the pilgrims replies, "So we may eat stone soup."

"It must be terribly bland!" said an old woman, "but, I have a cabbage, which will add some flavor!" Another villager said "And I, some carrots, which will add color!" "Some potatoes!", offered another, until, shortly, *by the contribution of a little by many*, a hearty soup was made, upon which the entire village and the weary pilgrims dined... and while doing so, shared their tales, talents, and camaraderie throughout the night.

The very next day, the travelers (who by now could be called "strangers" no more), continued their journey, leaving the little town, and its people, behind. But the villagers never forgot them, and the lesson they had learned. In fact, during the hardest of times, in such a time as this tale, that little village thrived, because the townsfolk never forgot how to make "stone soup". #

2004 ExCom Election Results: Opportunities for Leadership

On January 1st, the votes from the annual Shawnee Group ExCom election were tallied and announced at the 2004 Stone Soup Gathering. Three members were elected for two year terms to serve on the Shawnee Group Executive Committee (ExCom): Bob Pauls, Barb McKasson, and Bob Tyson. They join ExCom members, Donna Ayers, Phyllis Oliver and Ron Schmeck whose terms end 1/2005.

At its January 15th meeting, the ExCom, elected officers for the coming year. Ron Schmeck was chosen to serve as the ExCom Chair and Sierra Student Coalition liaison. He replaces life member, Laurel Toussaint, who has served with distinction as the Group Chair for many years with the Shawnee Group. Laurel will continue to help the ExCom chairing a new Carbondale Issues Committee and the Sprawl Committee. Bob Pauls will serve as Group Vice-Chair. He will also continue as webmaster and newsletter editor, and assume additional duties as the Political and Publicity Chair, as well as, alternate delegate to the Illinois Chapter ExCom. Barb McKasson was reappointed as the Delegate to the Chapter ExCom and as the Conservation Chair. Several officer positions are

appointed as non-voting ExCom members. Bill Boman was reappointed as Treasurer and Fundraising Chair. New volunteer, Shelby Seegers, will be the Group's new Secretary. Stepping down after many appreciated terms as ExCom Secretary is Cathie Hutcheson.

Volunteer opportunities with the Shawnee Group abound for additional members to "enjoy, explore and protect the planet." Listed below are the names of some of the Group's administrative and conservation committees. They are preceded by the name of the appointed chair. Where a chair has not yet been appointed, any member has an opportunity to show some leadership skills. These committees are where the "boot meets the trail" in the Club's work to protect southern Illinois. Duties of nine of these offices are listed on page 5.

Sandy Anderson: program
Donna Ayers: membership
Bill Boman: fundraising, and publication representative/calendar sales.
Stan Harris: mining, water quality/wetlands, and habitats.
Bob Iltis & Sharon Fletcher: grazing
Don Lawrence: population, marine, and transportation.

Clara McClure: waste.

Barb McKasson: agriculture, contained animal feeding, genetic engineering, international trade, phone tree coordinator, state forests/lands, volunteer coordinator: wilderness and wildlands.

Phyllis Oliver: environmental education, and parks/refuges.

Bob Pauls: MUIR (mailing list system), outings leadership chair, computer, fundraising, energy, and CAFÉ standards.

Bob Tyson: group outings, environmental justice, and human rights.

Committees needing chairpersons and volunteers:

- ☼ Air Quality
- ☼ Biodiversity
- ☼ Farm and Food
- ☼ Pesticides
- ☼ Endangered Species



Bill Boman



Barb McKasson



Bob Tyson



Ron Schmeck #



Groundforce — Transforming Snowflakes to Ice

By Bob Pauls

Snowflakes have amazing and unique physical attributes.

(see the December 2003 issue of Shawnee Trails) When individual snow flakes finally reach the ground to mix with their peers, their composition doesn't immediately change. If the snow's temperature remains very cold (< 40° F.), about the only thing that can readily alter a snowflake's original shape is high winds.

Eventually, however, snowflakes do change (metamorphose). Water molecules evaporate from the tips of the snowflakes and redeposit in the valleys between the branches of the crystals to form smaller, more rounded structures. That is the reason why snow depth appears to decrease not long after a snowfall.

In addition, due to temperature gradients in deep snow, water vapor in the snow migrates along the intersecting snowflake tips from warmer areas having a higher vapor pressure to colder areas of the snowpack that have lower vapor pressures. Larger crystals tend to be found at the bottom of snowpacks. Eventually, these growing crystals form cup shaped structures called **depth hoar**. Depth hoar is not very common in southern Illinois because deep snow seldom accumulates and doesn't last very long.

What is more common in the Shawnee National Forest are several different types

Fire and Ice

Some say the world will end in fire;
Some say in ice.
From what I've tasted of desire
I hold with those who favor fire.
But if it had to perish twice,
I think I know enough of hate
To know that for destruction ice
Is also great
And would suffice.

~ Robert Frost

of "surface generated ice features": rime frost, hoar frost, fern frost, verglas, ice lenses, crusts, and water runoff channels.

Rime frost is ice formed when a damp, icy wind blows over flowers, branches and other surfaces. Rime frost looks like icing around the edge of petals and leaves, and only occurs when the temperatures are very low. **Hoar frost** occurs when water vapor touches a very cold surface and instantly freezes on it. This can happen to plant leaves and branches. The frost will form with ice crystals that look like spiky fingers. **Fern frost** creates beautiful patterns of ice crystals on very smooth objects such as glass and typically has a woven leaf or fern-like pattern – hence the name. (See page 6) It occurs in especially cold weather when dew quickly freezes on a surface. Additional dew freezes on top of the base pattern creating a thin, three dimensional leaf image. **Verglas** is created when flowing water freezes on an object. When verglas becomes covered by snow, it can make for treacherous travel for all animals, especially on steep surfaces.

Other forms of ice layers can be formed between snow and the ground that can restrict the movement of small animals such as mice. **Crusts** on surfaces or within deep snow are created in several ways. Wind can pack and harden snow crystals though a complex process called **sintering**. The sun can also cause "melt-freeze" surface crusts. Freezing rain can create similar surface crusts.

Runoff channels of flowing, nearly frozen water are formed during warm weather in a random process where water has percolated into the ground.

Each of these phenomena affect wildlife differently. Plants, animals, and insects, like mankind, must quickly respond to these phenomena to avoid hypothermia, frostbite, starvation and death. Snow, for all its beauty, drastically alters the habitats of most species in significant ways.

Snow Properties

Snow is a substance that has some unique physical and mechanical properties. At different densities, frozen water molecules of snow appear quite differently.

Snow has a **plastic** quality. It moves and deforms in response to wind, gravity and pressure to form odd shapes. It is a common sight to see snow appear to curl around projection or an overhang such as a roof. This phenomena is important to small creatures that depend upon the cavity created to provide shelter.

<u>Frozen Water Type</u>	<u>Water Content</u>
Fluffy, new fallen snow	8%
Metamorphosed snow	15%
Depth hoar	20%
Settled snow	30%
Ice lenses in snowpack	45%
New glacial ice	70%
Old glacial ice	90%
Pure Water	100%

Snow has very low **thermal conductivity** and is, therefore, a good insulator.

<u>Material</u>	<u>Thermal Conductivity</u> (Calories/hour/cm ² /° C)
Rock	193.3 — 416.3
Plastic	29.7 — 74.3
Ice	3.2 — 9.8
Dry sand	1.4 — 2.5
Newly fallen snow	0.7 — 1.3
Dry wood	0.7 — 1.8

Many creatures depend upon continuous snowpack to insulate themselves or their burrows from the temperature variations of winter. Humans have survived the fiercest of blizzards by building igloos, snow caves or **quinzhees** of snow. (See page 7 on how to build a quinzhee.) Snow also has some interesting optical properties. Snow is an excellent reflector of light (solar insolation).

(Snow and Ice – continued on page 7)