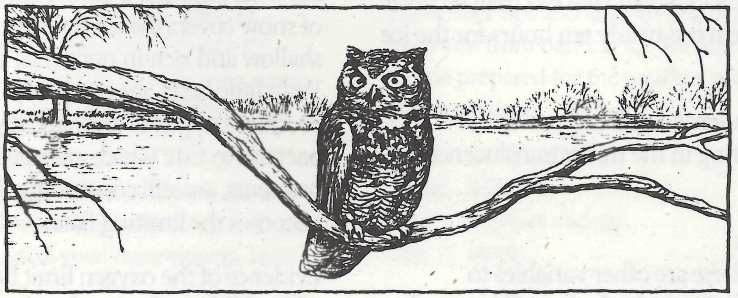
# STILLMAN NEWSLETTER



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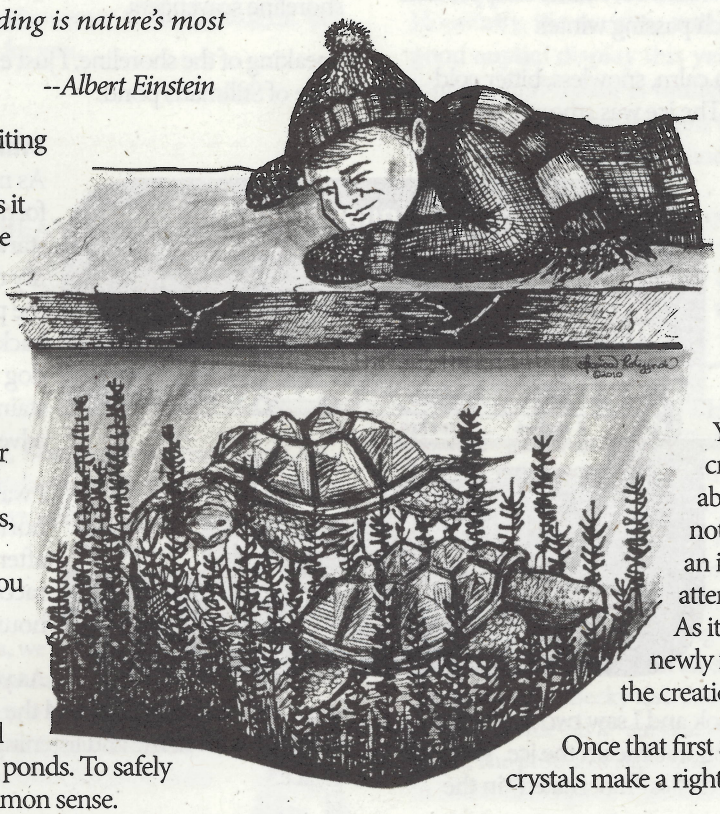
## ICE ESCAPADES

*-- Mark Spreyer*

*Joy in looking and comprehending is nature's most beautiful gift.*

*--Albert Einstein*



Winter is full of magical gifts waiting to be opened. Sometimes, an exaggerated fear of nature makes it difficult for us to appreciate some of these gifts. In particular, I'm thinking of lake ice.

### Safety Disclaimer

Stillman's Board of Directors would send me packing if I didn't make it quite clear that our nature center's ice-covered pond is off limits to hikers, snowshoers, cross-country skiers, ice skaters, unicyclists, overweight deer… you get the picture.

That said, every winter folks across the northern two-thirds of our continent have wonderful experiences on frozen lakes and ponds. To safely do so, all you need is a little common sense.

Speaking of which, the Minnesota Department of Natural Resources has put together a practical chart (see p. 2) to help guide you when considering a lake-top stroll. I recommend you use it.

### Crystal Construction

While I type this, a thin layer of ice is forming across the surface of Stillman's pond. With Einstein's words in mind, that's the "joy in looking" part. Comprehending the process unveils a fascinating thermodynamic push-and-pull.

We all know that water freezes at 32°F. As an ice cube floating in a glass of water illustrates, liquid water is denser than solid water. To be precise, water is densest at 39°F.

Once all of the pond water, from top to bottom, is 39°F, the surface layer expands as it continues to cool. When it reaches 32°F, the liquid water solidifies and, as the molecules slow, heat is given off.

Years ago, while watching ice crystals close over a recently-abandoned ice fisherman's hole, I noticed that the crystals formed in an irregular pattern, as if they had attempted to spread and then stalled. As it turns out, the heat given off by newly formed crystals puts a brief hold on the creation of the next crystal.

Once that first skim of ice covers the pond, the crystals make a right-angle turn and grow down. As the

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### Renewal Reminder

If you see a 10 or smaller number after your name, this will be your last newsletter until you renew. If you didn't receive our annual membership letter, just use the form on the back of this newsletter. *We need your support* in order to keep Stillman from breaking through financial thin ice. Thank you.


# STILLMAN NATURE CENTER

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surface layer thickens, the pond's heat is trapped under the ice, and the downward growth of ice crystals slows.

At an air temperature of around 20°F, it can take less than an hour for the first half-inch of ice to form but nearly ten hours for the ice to become two inches thick.

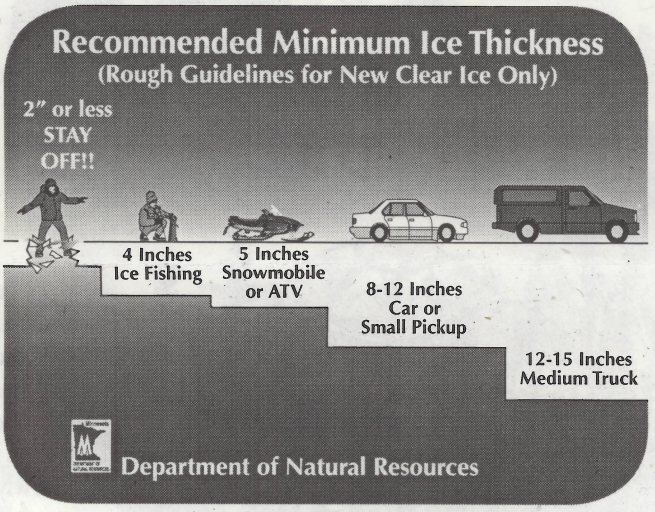
As the crystals grow, air gets condensed and trapped in the honeycomb of ice crystals, resulting in the milky translucence common to lake ice.

### Through the Looking Glass

When ice first forms on a lake, there are other variables to consider besides temperature. If it is windy, the ice will be rough and if it's snowing, the ice can be quite punky.

As a kid, I loved to ice skate but my rink was the lake behind the house. I was sort of a cross-country skater. So, I came to appreciate this quality of ice formation with each passing winter.

One winter, the first ice formed on a calm, snowless, bitter cold night. The conditions were perfect. The ice was smooth, hard, and nearly clear. It was as if all of the lake's surface had turned into a glass-bottomed boat. The west tongue of the lake was filled with aquatic weeds. During the summer, it was hard on sailboat centerboards but a popular destination for anglers. I was skating over this submerged vegetation on that beautiful clear ice when I noticed the weeds moving. While I knew that currents flowed under the ice, this movement was different, The weeds looked like they were being tugged or yanked. In fact, they were.




### Shell Station

I got on my knees to take a closer look and I saw two mid-sized snapping turtles moving in slow motion beneath the ice. This was curious since, at the time, I thought turtles "hibernated" in the mud along with the lake's frogs.

While these animals do overwinter near the mud, that does not mean they are inactive. For example, leopard frogs can move a little bit in water that is not far above freezing and snapping turtles, as I observed, do crawl along the bottom during the coldest times of the year. Snappers, which have a tolerance for chilly water, are inactive for only short periods of time.

### Leaves to Gills

The clear ice I was peering through allows sunlight to reach the aquatic plants which, in turn, allows the plants to photosynthesize. During photosynthesis, as you may recall, plants take in carbon dioxide and give off oxygen. Sometimes, air bubbles under the ice indicate that submerged vegetation is busy pumping out the oxygen.

Remember, the ice overhead seals the lake off from the air above. Also, organisms living under the ice need dissolved oxygen to breathe. Fish, which are more active in winter than the animals discussed earlier, use gills to filter out the needed oxygen.

So, what happens if the ice isn't so clear? What if a heavy layer of snow covers the ice for months at a time? Well, if the lake is shallow and rich in nutrients, this could be bad news for the fish. With little light, aquatic plants' ability to photosynthesize and produce oxygen is dramatically decreased. Yet everything from bacteria to fish, which are not limited by the availability of other nutrients, are still consuming dissolved oxygen. Oxygen then becomes the limiting factor.

Evidence of the oxygen limit being reached is indicated by dozens of dead fish surfacing after the ice melts. Known as a 'winterkill,' this phenomena is sometimes blamed on pesticides when it is just nature's way of thinning the a lake's population. Bad news for the fish is good news for the crows, possums, raccoons, and other shoreline scavengers.

Speaking of the shoreline, I just experienced a trauma along the edge of Stillman's pond.

### Watch Your Step

As mentioned above, the ice was forming on Stillman's pond when I started this story. The next day, I took my dogs for a walk elsewhere on the property. Shortly before getting back to the kennels, Jamie, the older dog who has difficulty climbing stairs these days, decided to go on an adventure.

I wasn't too concerned since he normally just walks into his kennel after investigating a deer antler or raccoon skull. Unfortunately this day, hours went by and he did not return.

As you might expect, I retraced our steps and then drove around the neighborhood, all the while yelling out his name and listening for barking. Finally, I called the police.

More time passed and then I heard the younger dog bark and saw her look south, across the pond. Most of the pond is not visible from the office, so I took off right away wearing old sneakers, torn pants, and a sweatshirt. Relieved but also concerned, I found Jamie.

He had apparently tried cutting across the pond's thin ice and didn't quite make it. He was violently shivering in a mixture of broken ice and ink-black pond mud, unable to extricate himself. I had only one option: I broke through the ice, went waist deep in the very muddy water, and got the old boy out. We were quite the pair when we got to the fine folks at the **Dundee Animal Hospital**. Thanks to their excellent care, Jamie is back on his feet.

As for me, I was dramatically reminded what it can be like when you aren't careful on the ice. As George Herbert wrote centuries ago, "Trust not one night's ice."

# PROGRAMS

**Program Basics:** PLEASE CALL 847-428-OWLS(6957), OR EMAIL STILLMAN AT: stillnc@wildblue.net TO MAKE RESERVATIONS for programs. Remember to include your name, phone number, and the number of people that will be attending.

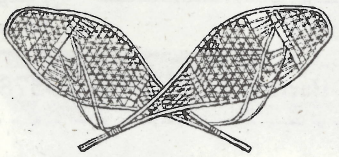
If less than 5 - 10 people (varying with the activity) have called two days prior to a program, the program could be cancelled. So, don't forget to call the nature center in advance. If you discover that you are unable to attend, please call to cancel your reservations. This courtesy will be greatly appreciated.

## NEW YEAR'S DAY WALK

Join us for the annual New Year's Day walk along Stillman's trails. Over the years, we've seen everything from bluebirds and shrikes to the remains of coyote kills. If you like winter, don't like football, or need to sober up; this is the walk for you.

Date: Saturday, Jan. 1
Time: 10:00AM
Age: 10 years and up

## SNOWSHOEING with L.L. BEAN



To help you sample Stillman's winter scenery in a novel way, call the L.L. Bean store in S. Barrington at (847) 551-8910 and register for an introductory snowshoeing adventure. Conditions permitting, Bean's snowshoeing classes are scheduled every Saturday and Sunday through the end of February. Experienced snowshoers are always welcome at Stillman on any snow-covered Sunday.

## OWL MOON WALK

After an indoor program on owls, we will walk the trails in search of Stillman's great horned owls. Assuming we have clear skies, we'll be able to enjoy the winter landscape by the light of the (nearly) full moon. Space is limited so call (847) 428-OWLS to make reservations. Don't forget to dress warmly.

Date: Friday, Jan. 21
Time: 6:30PM
Age: 8 years and up
Member's Fee: Free
Non-member's Fee: $5.00

## MAKING TRACKS

Join Susan Allman as she shows you how to recognize the different types of tracks made by winter's active animals. After an indoor introduction, explore Stillman's trails for signs of rabbit, squirrel, deer and fox. If there is no snow on the 30th, we'll try again on Feb 6. Remember to call (847) 428-OWLS to make reservations.

Date: Sundays, Jan. 30 & Feb. 6
Time: 2:00PM
Fee: None

## TREE IDENTIFICATION

Learn how to identify common trees such as cherry, maple, pine, and cedar. Easy to remember tips and simple hand-outs will keep you from barking up the wrong tree! Come prepared for the weather and bring your questions.

Date: Sunday, Feb. 13
Time: 2:00PM
Age: 10 years and up
Fee: None

## WOODCOCK WATCHES

Each spring, the American woodcock puts on its amazing mating ritual right here at Stillman. A woodcock, by the way, is a portly inland sandpiper with a long beak and short legs. Hopefully, the weather will cooperate and we'll have another good nuptial display this year. Bring you binoculars and come join the fun! Space is limited so call (847) 428-OWLS to make reservations or email us at stillnc@wildblue.net Please dress warmly and wear shoes you don't mind getting muddy.

Date: Saturdays, March 19 & 26
Time: 6:30PM
Age: 8 years and up
Fee: None

## GENEROSITY IS FOR THE BIRDS

We're pleased to announce that we have expanded the bird feeding station located near the fire circle. Stop by and enjoy the festival of winter birds that frequent our feeders. A special thanks to **Mike Schudrowitz** of **Wild Bird Center of Fox River Grove**, and **Becky Menich** of **Pileated Pride** for donating the suet feeding component complete with an effective squirrel/ raccoon baffle. Becky also donated several "Home-Style" suet cakes which she produces right here in South Barrington. Her suet is available on-line and at local wild bird specialty centers. For more information, visit their web sites and please support our local businesses.
Wild Bird Center of Fox River Grove: http://wbc-frg.com/
Pileated Pride: http://www.homestylesuet.com/

**Please note that Stillman Nature Center is also available, by reservation, during the week to school classes. You can visit the Center or we can bring our raptors to your meeting place. For more information just call or email us at stillnc@wildblue.net.**

## Stillman Nature Center
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***If you aren't already a member, please consider joining us.***

☐ Yes, I'd like to become or continue as a member of the Stillman Nature Center.
I enclose my tax deductible contribution of $_____.

☐ I'd like to help as a volunteer with programs or land management at the Stillman Nature Center, please call me.

☐ Please send a gift membership from _____ to the name and address listed below.

Name_____

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| Student/Senior | $15.00 |
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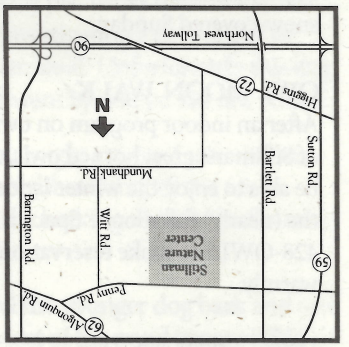


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