

LILLY LAKE NEWS

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Ice Fishing Safety

- Enjoy the winter season, but please remember ice safety.
- Remember this rule of thumb: "Thick and blue, tried and true. Thin and crispy, way too risky."



"One teaspoon of salt can contaminate 5 gallons of water....forever."

LAKE ICE SHOVES

With cold weather, it is time to think about our lakes and how the formation of ice may affect them. As the water at the top of the lake begins to cool, it becomes more dense and sinks. However once it reaches 39.2° F it becomes more dense and expands. When it reaches the freezing point (32°F) ice forms and because it is less dense will float to the top. This freezing increases the volume by about 1/8 and the formation of a sheet of ice limits heat loss from the water and the ice sheet thickens. Ice formation may be deterred however due to wind and wave action.

An ice sheet is floating except at the points where it comes in contact with the shore, bridges, dams, or walls. With the rise and fall of air temperature, the ice expands and

contracts, changing in volume. These changes occur at differing rates at the top and bottom of the ice sheet causing internal stress, which eventually causes cracks. These cracks fill with water, which then freezes and expands the ice, further exerting more force on shore. If the shore cannot be shoved, it may buckle.

This continued action of expansion and contraction of the ice sheet is called "ice jacking". It continually pushes lawn, soil, or docks onto shore and with the proper shore and bottom conditions buckles and piles huge ridges just off shore. Ice has eight times as great a capacity for thermal expansion as steel when it is at least 5 inches thick. The freezing rate can

also be reduced by a layer of snow covering the ice, which does not allow sunlight to penetrate through to the water underneath.

Ice shoves levels can vary with conditions from year to year such as the ice being 5 inches thick, little or no snow cover, and temperature fluctuations increasing the likelihood of bigger shoves. When purchasing a home you want to look for signs of shoves along the property and make sure the home is as far removed from the shore as practical. Retaining walls and foundations cannot be built of sufficient strength to stop shoves and are often very expensive to repair or replace. Knowing the likelihood of an occurrence of an ice shove may be your best insurance.

SALT DIET FOR LAKES?

Use of road salt (sodium chloride) for road and sidewalk maintenance has increased significantly in recent decades and its negative impacts are being seen in our lakes, streams, and even drinking water wells!

Here are some quick facts:

- Chlorides do not go away or break down. One teaspoon of salt can contaminate 5 gallons of water....forever!

- Some lakes have seen a 100-200% increase in chlorides in 15 years, and the trend is increasing.
- Up to 10% of aquatic life is negatively impacted by chloride concentrations **currently** in our lakes/streams.

What can you do?

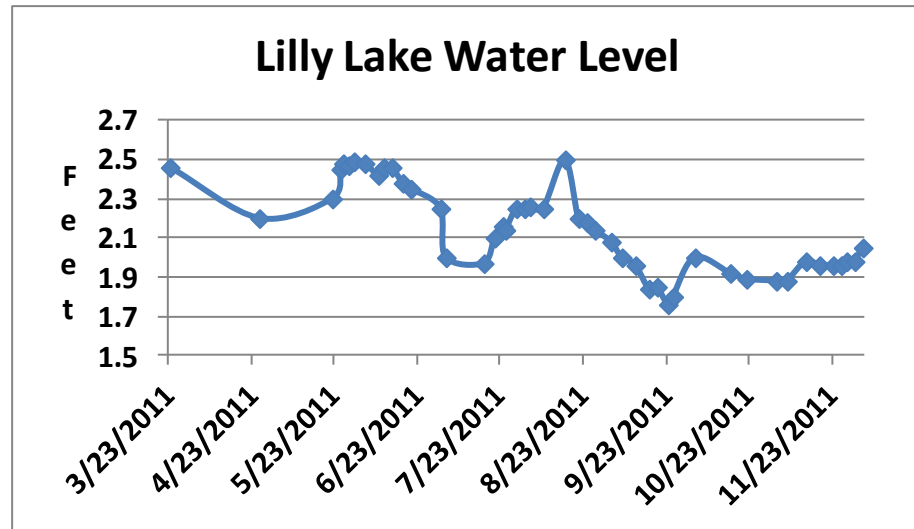
- **Shovel first!** Don't use salt to "burn" off snow.

- Do not use rock salt (sodium chloride) when temperatures fall below 15°F, as it is ineffective at these low temperatures. Instead use calcium or magnesium chloride.
- Support local government's efforts to reduce salt. New techniques and products (such as anti-icing, beet juice, etc) are enabling winter maintenance crews to use less salt while still providing safe roads.

LILLY LAKE WATER LEVEL—2011 RESULTS

Reading the Gauge:

- **When:** March to December
- **How Often:** Weekly, more often if we get rain
- **Why:** To establish long-term information on how the water levels rise and fall which can be used for lake management decisions.



Examples of Recent Policies Affecting Lakes:

- [Pier registration](#)
- [Slow no-wake](#)
- [Shoreline Zoning Rule \(NR115\)](#)
- [Aquatic Invasive Species](#)

- Do you have a topic that you would like to see in the newsletter?

Please contact Mike Adam at:
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WISCONSIN LAKES GROUP...CHECK IT OUT



Wisconsin Lakes, formerly known as the Wisconsin Association of Lakes, is the only statewide non-profit organization working to protect and enhance the quality of Wisconsin's 15,000 lakes. They are the citizen arm of the [Wisconsin Lakes Partnership](#).

The group's goals are to assist lake groups and lake users in their efforts, help local leaders manage and restore lakes and their watersheds, provide a unified voice for public policy that will protect and preserve lakes, and advance public knowledge of lakes, their watersheds, and ecosystems.

They provide a wealth of information on everything from current legislative policies, "how to" segments on writing lake management plans and hiring consultants, to information on how to become involved in your area

or throughout the state.

They also offer a newsletter and email updates on current lake issues. In addition, an annual conference is held every April in Green Bay. Regional workshops on lake topics are scheduled and are open to the public.

You can find their website at:
<http://www.wisconsinlakes.org/>

