



Your guest presenters (and experts) this evening are:



Krystal Costa Balanoff
Conservation Program Coordinator
NH LAKES



Andrea LaMoreaux
Vice President
NH LAKES

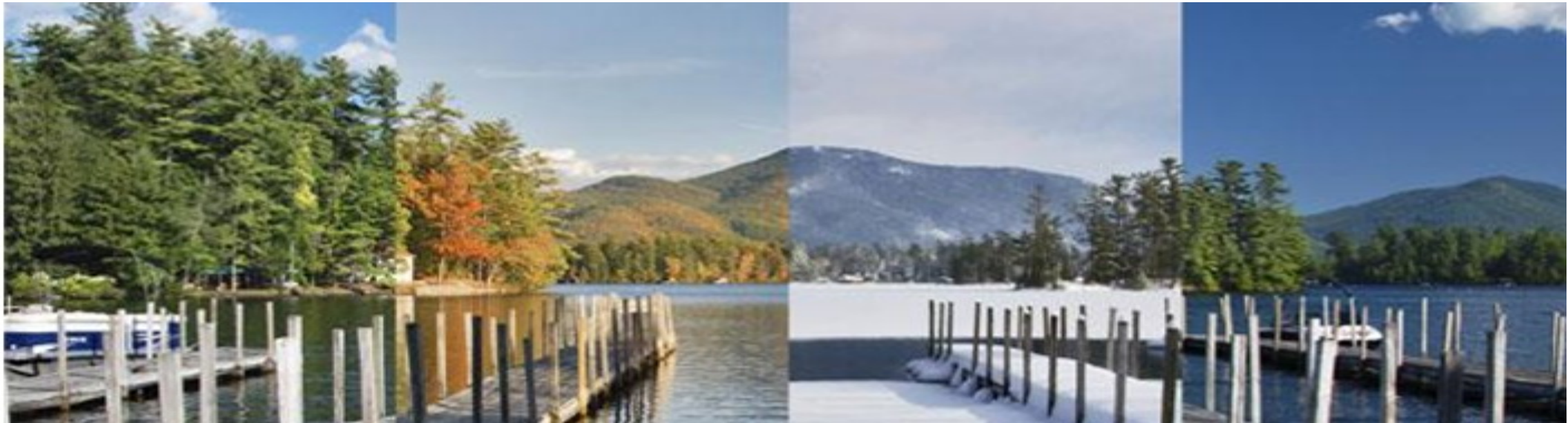


Lakes in Winter

Hosted & Presented by NH LAKES
Wednesday, January 6, 2021



Lakes change as the seasons change.



Summer

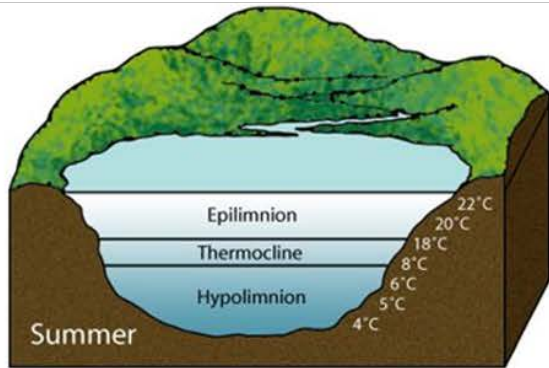
Fall

Winter

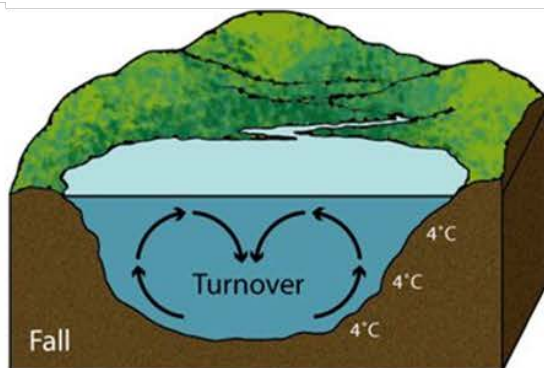
Spring



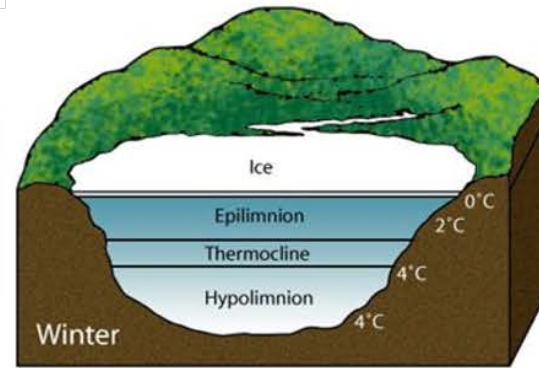
How the water moves in a lake changes as the seasons change.



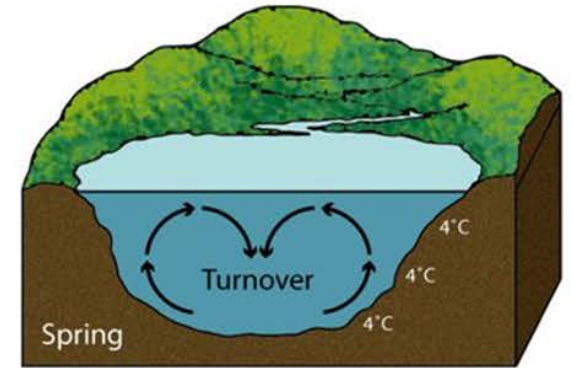
Summer



Fall



Winter



Spring



Our lakes in New Hampshire are unique!



Not all lakes in the US freeze!



Winter brings another season of
recreation & lake-based commerce!







New Hampshire
FISH AND GAME
Connecting you to life outdoors

NEWSROOM HOME

NH'S WILDSIDE

NH FISH AND GAME WEBSITE

Save the Date: Free Fishing Day in New Hampshire Is January 16, 2021

CONTACT:

Jason Smith or Scott Decker: (603) 271-2501

Jay Martin: (603) 271-3211

December 18, 2020

Concord, NH – If you've ever wanted to try ice fishing, why not take advantage of New Hampshire's winter free fishing day on Saturday, January 16, 2021. That's a day you can fish without a license in New Hampshire.



Note that all other regulations must be followed. Learn more about fishing rules by reading the NH Freshwater Fishing or Saltwater Fishing digests at www.fishnh.com/fishing/publications.html.

Persons participating in a fishing tournament must still hold a license, even on free fishing day.













Interest in outdoor activities expected to heat up this winter in New Hampshire

Enthusiasts expected to continue spring and summer spikes in participation

January 3, 2021 by Dan Seufert-Granite State News Collaborative



The Great Meredith Rotary Ice Fishing Derby will not have a physical 'fish board' this year, but instead will have an online 'virtual' fish board. (Photo by Dan Seufert)

Outdoor winter event planners and safety officials are anticipating a busy season following the unexpected rise of outdoor enthusiasts earlier this year.

Near-record crowds flocked to the lakes and mountains this summer and fall despite Covid-19 restrictions – or perhaps because of them.



Right now, ice is forming and thickening on our lakes...





But, how do our lakes freeze?

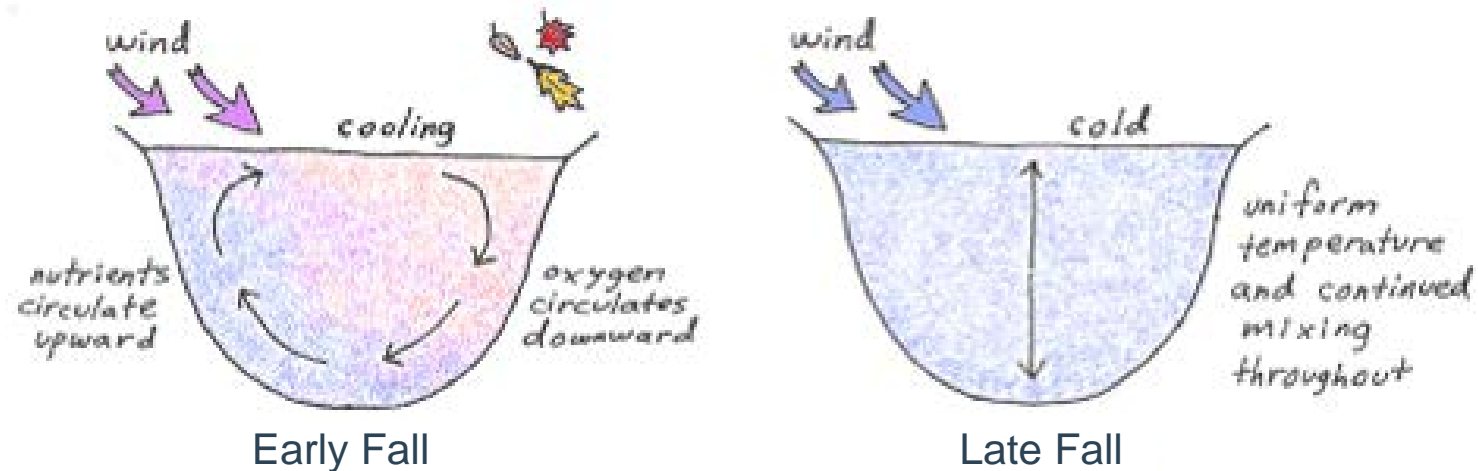




Since early-August, when NH's lakes typically reach their warmest, they have been cooling off.



The cooling surface water becomes heavier and it sinks to the bottom, forcing warmer, less dense water to the surface where it cools.



The cooling and sinking occurs until all the water drops to 39 degrees Fahrenheit, the point at which water is the most dense.



As the surface water continues to cool something very unusual in nature happens...

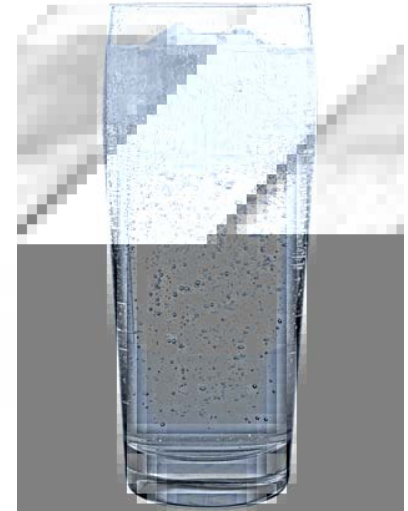
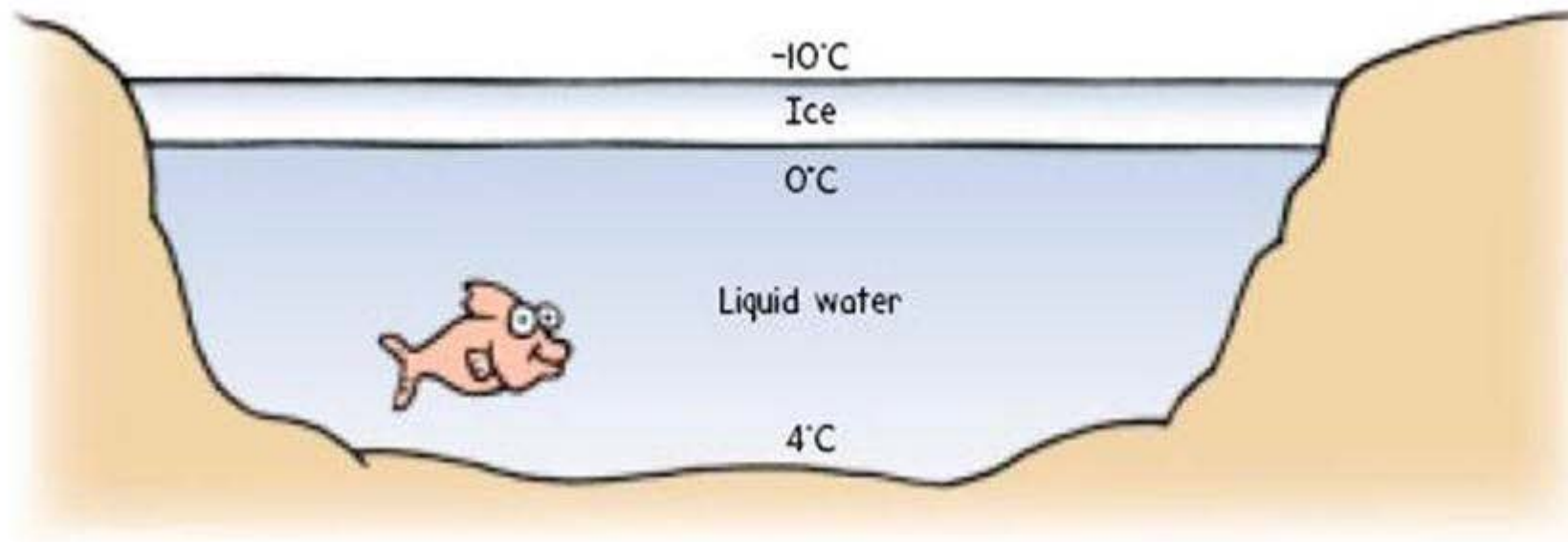


Dropping from 39 degrees to 32 degrees Fahrenheit...

...the water molecules at the surface expand (become less dense)
and crystallize into interlocking lattice-like patterns forming ice!



The ice is colder and less dense than the water below it.



This is why lakes don't freeze from the bottom up!



Report 'ice-in' dates to DES!

- Typically, this is when entire lake freezes over for the first time.
- Tracking this year to year helps biologists understand trends in lake health.

Go to: tinyurl.com/Report-Ice-In

The screenshot shows the DES website with the following structure:

- Header:** Navigation links (Home and Recreation, Business and Community, Climate and Sustainability, Rules and Regulatory, Resource Center) and social media icons.
- Main Content Area:**
 - Volunteer Assessment Programs:** A section titled "Empowering citizen scientists to monitor lake water quality and engage in watershed management." It includes a photo of volunteers and text about the program's goals.
 - Training and Data Quality:** A section titled "Ensuring high-quality data are generated" with a photo of volunteers and text about data quality assurance.
 - Guidance for Volunteers:** A section with links to "Field Data Sheets", "Field Sheets and Manuals", and "VAP Field Manual".
 - Spotlights:** A section titled "Help Track Lake Ice-In and Ice-Out" with a photo of a lake and text about the ice-in and ice-out process.
- Right Sidebar:** Contains sections for "Reports" (listing various annual lake reports), "Resources" (including NH LAKES, NH Homeowner's Guide to Stormwater Management, and Lake Information Mapper), and "Related Content" (including River and Lake Monitoring, Cyanobacteria, Public Discharges, Invasive Species, Watershed Assistance, Lake Management and Protection, and Mercury in Fish).



As the air temperature continues to cool, the ice becomes thicker.



“Is the ice ‘safe’ yet?”

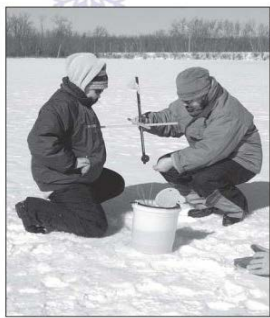




Ice is never 100% safe.

New Hampshire Fish and Game Department

SAFETY ON ICE



Tips for Anglers

www.FishNH.com

Judging Ice Conditions

Look for solid bluish-black ice:

- Four to 6 inches* of solid bluish-black ice can support a few well-dispersed people.
- Eight to 10 inches* of solid bluish-black ice can support OHV activity.

Even if the weather has been below freezing for several days, don't guess about ice thickness. Ice does not form consistently across a water body. A water body's size, temperature, depth, currents, springs and wind exposure affect ice formation. Early season snow cover can insulate ice from cold temperatures and slow ice formation.

Checking the ice:

- Use an auger, spud or axe to make test holes.
- Check the ice in several places; start at shore and continue testing as you go out.

Remember:


- All ice is potentially dangerous.
- Stay off the ice along the shoreline if it is cracked or squishy. Don't go on the ice during thaws.
- Watch out for thin, clear or honeycombed ice. Dark snow and ice may also indicate weak spots.
- Ice can remain dangerously thin in places with current, like inlets, outlets and spring holes.
- Choose small bodies of water; they tend to freeze thicker. Rivers and lakes are more prone to wind, current and wave action.

* Ice thickness recommendations based on information from Cold Regions Research Laboratory in Hanover, NH.

What if I break through the ice?

1. Don't panic.
2. Move or swim back to the place you fell in – where you know the ice was solid.
3. Lay both arms on the unbroken ice and kick hard. This will help lift your body onto the ice. A set of ice picks can aid you in a self-rescue. Wear them around your neck or put them in an easily accessible pocket. If you fall in, the spikes will give you added grip on the ice.
4. Roll away from the hole until you reach solid ice.

*"Thick and blue, tried and true
Thin and crispy, way too risky"*



If the ice along the shoreline is cracked or squishy, stay off. Sun-warmed rocks can weaken surrounding ice.

What if my buddy breaks through the ice?

1. Don't rush over to the hole. Keep yourself safe. There is no need to have two victims in the water.
2. Look for something you can throw or use to reach out to the person – a rope, branch or ice spud.
3. Lie down flat and reach out with your tool or form a human chain.
4. After securing the person, **don't stand** – wiggle backwards to the solid ice.

The victim may need artificial respiration, CPR or treatment for hypothermia (cold exposure). Cover the victim with a warm blanket or extra clothing and seek medical assistance immediately.



tinyurl.com/NHFG-Ice-Safety

If you go out, check the thickness, wear a life vest and a set of ice picks around your neck, and go with a buddy.



“Falling through the ice happens quickly and you must be prepared.”







It's not too late to give yourself or your winter adventuring friends and family a holiday present!

Sports & Outdoors > Sports & Fitness > Hunting & Fishing > Fishing > Ice Fishing > Ice Spearing Equipment

You purchased another variation 1 time.
Last purchased on January 21, 2020 | Style: Ice Picks | View product





Roll over image to zoom in

Frabill Retractable Ice Picks | Emergency Gear for Ice Fishing | Available s or Part of a Kit

Brand: Frabill
★★★★☆ 668 ratings | 15 answered questions
#1 Best Seller in Ice Fishing Ice Spearing Equipment

List Price: \$45.99
Price: **\$15.11** Prime FREE Delivery & FREE Returns
You Save: \$0.88 (6%)

Pay \$15.11 \$9.86 after using available Amazon Rewards Visa Card Points.

May be available at a lower price from other sellers, potentially without free Prime shipping.

Style: Ice Safety Kit


Ice Picks \$11.65 prime	Ice Safety Kit \$15.11
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- Frabill | Trusted By Anglers Since 1938
- Includes | Whistle, retractable ice picks, and one pair of XL ice creepers
- Safety whistle alerts others to danger
- Ice Picks | Designed to be worn, simply hold one handle in each hand then put on your jacket or coat | Picks will stay at the base of your sleeve to be easily within reach in the event of an emergency
- XL Ice Creepers | Rubber pull-ons attach to boots easily | 10 carbide spikes per creeper provide sturdy grip across ice to keep you upright and safe


New & Used (16) from \$15.11 prime FREE Shipping
[Report incorrect product information.](#)


Sports & Outdoors > Sports & Fitness > Swimming

You last purchased this item on January 21, 2020.
[View this order](#)









CPR Savers Throw Bag with 50 ft (15 Meters) Buoyant Water Safety Throw Rope


Brand: CPR Savers & First Aid Supply
★★★★☆ 8 ratings

Price: **\$19.95** prime & FREE Returns

Pay \$19.95 \$14.70 after using available Amazon Rewards Visa Card Points.

- Imported
- Compliant with Canadian Coast Guard equipment standards
- 50ft long, 7mm in diameter polypropylene rope and foam in the bag helps this product float.
- Barrel-lock drawstring mechanism gives the user a smoother experience, and a more accurate throw.
- Tangle resistant rope to help make use easier, and prevent mold from forming.
- Effective method for rescue during boating, ice fishing, kayaking, swimming, diving or other emergencies.

New (2) from \$19.95 prime
[Report incorrect product information.](#)

 MIXSNOW Water Shoes Mens Womens Quick Drying Aqua Swim Walking Shoes Casual...



Two Skaters Rescued After Falling Through Thin Lake Ice In Canaan

By ANNIE ROPEIK • DEC 30, 2020

[Share](#) [Tweet](#) [Email](#)



A more deeply frozen Canaan Street Lake is seen in this undated photo.

CREDIT CHRIS RICHARD / VIA MAPIO

First responders in the Upper Valley rescued two women who fell through thin ice on Canaan Street Lake Wednesday morning.

A police officer was checking a lock at the nearby beach house and had seen the women ice skating. Officials say the next time he looked, they were gone.

The women were in the water for about half an hour before rescuers from

several local agencies pulled them out. They were treated at a local hospital for hypothermia and are expected to recover.

Canaan police say the ice on the lake was uneven and only about two inches thick at most. They say there was open water in the center of the lake where the women fell through.

This is the town's third ice rescue in about a year. And in the spring of 2019, a man and his dog were rescued after falling through the ice on the same lake.

Residents are reminded that most water bodies are not safely frozen through for skating or fishing at this time of year, especially in the southern half of the state.





NH RSA 485-A



Any petroleum-powered vehicle or container that becomes submerged in the water must be removed within 48 hours or as soon as safety and weather conditions permit.



The cost of removal will be borne by the vehicle owner.



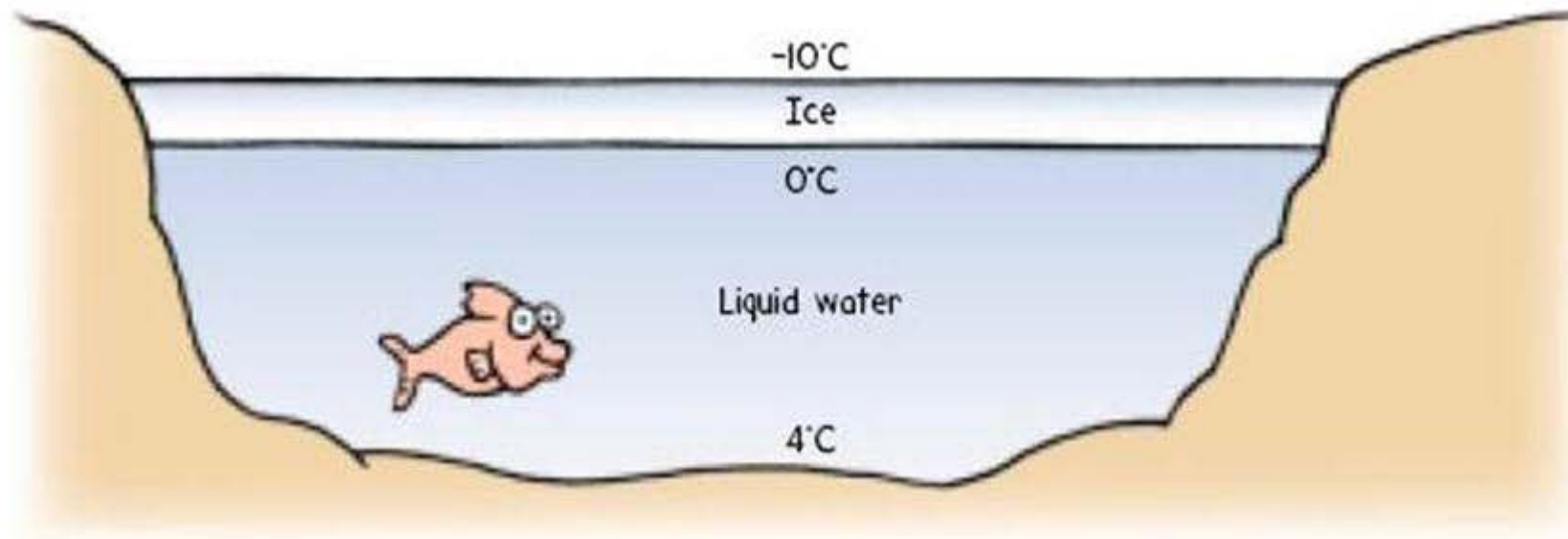
State authorities may issue citations and fines of \$500 *per day* for *each day* the vehicle remains in the water.



What's going on under the ice?



Most fish hang out near the lake bottom and slow down.



While the water right under the ice is about 32 degrees Fahrenheit, the water becomes slightly warmer closer to the bottom of the lake.



The ice seals the lake off from the atmosphere so no additional oxygen is mixed in.



When snow covers the ice, sunlight can't get in and plants no longer add oxygen into the water.



Oxygen is used up by fish and organisms that breakdown dead plants, animals, and algae.



For small bodies of water, if the period of ice extends well into the spring, there may be fish kills.



During winter, many plants in the lake die back.



But, their root systems remain intact and store energy to produce new vegetation in the spring.



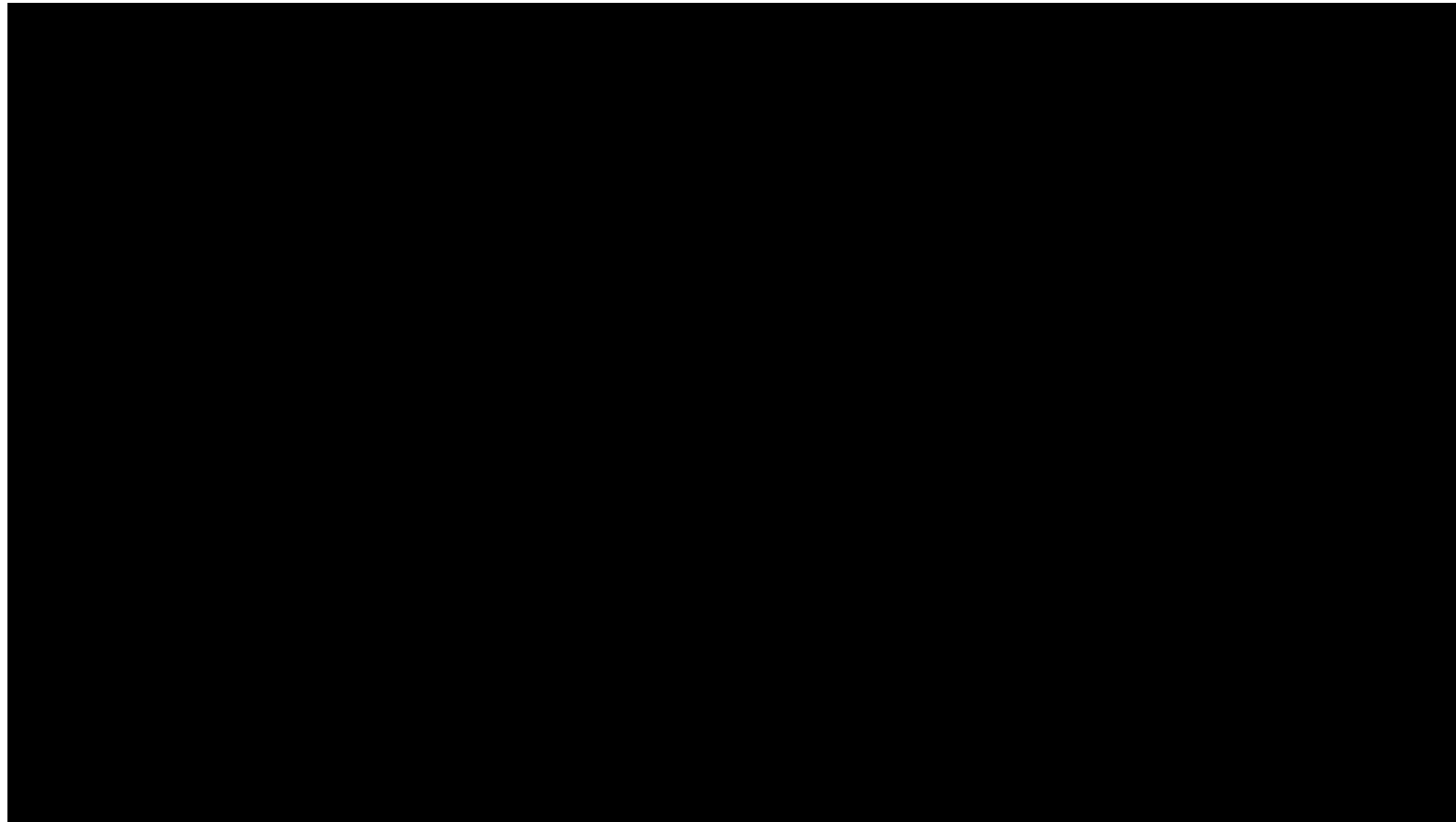
As we learned from NH Fish & Game in our November webinar...



many amphibians will enter a state of hibernation and seek protected areas, often burrowing down into the lake bottom sediment.



And other aquatic animals will play on the snow and ice!



<https://youtu.be/ptGv5Mr5GvM>



Have you seen (or heard) any strange or fascinating lake phenomena during winter?



Reports from Great East Lake, Wakefield, NH (Dec. 2020)



A minefield of melt holes!



It's a mystery!



- not meteorites!
- springs?
- gas bubbles from rotting vegetation?
- heavy snowfall depressing the ice, pushing up warmer water & melting the ice and snow?



Just in from Lake Winnepesaukee...

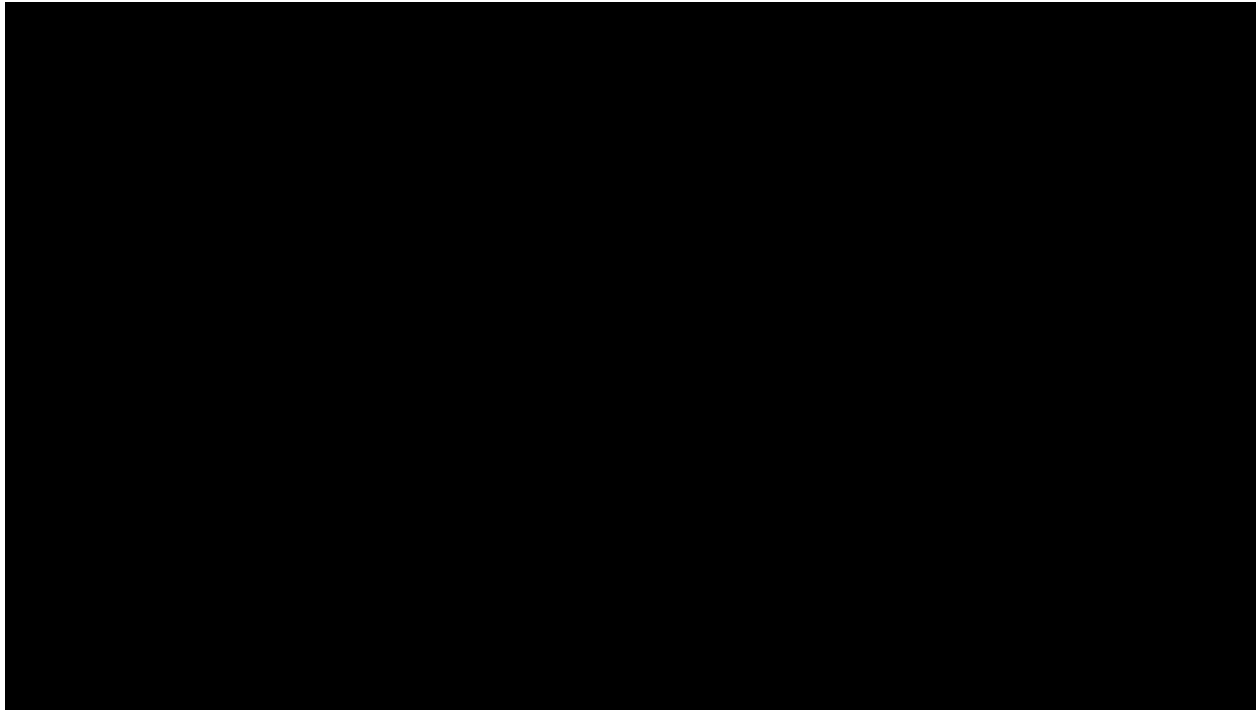


Singing lakes!

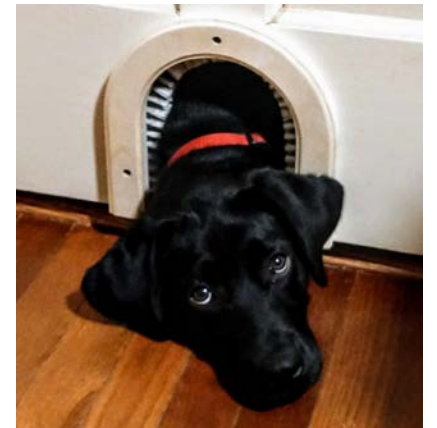
Frozen lakes create unique music and the sound can be unbelievable—often described as electronic music or sound effects accompanying lasers.



As the temperature fluctuates ice, expands and contracts.
This causes ice to move, sending sound waves throughout the ice.



https://youtu.be/y1T00H_daBw?t=1



The sounds can be haunting to those on the ice.



“There’s red dye in the lake!”



Jameson Lake, WA.

It’s natural red, but unusual, algae!



Ice Boulders!



When chunks of ice break off from ice sheets, they may continue to grow. The chunks may tumble through the waves, being rounded until a perfect ball is formed and washed ashore.



Ice bubbles!



Lake Baikal, Russia

- World's deepest lake (5,345 ft.)
- Holds 20% of freshwater in world

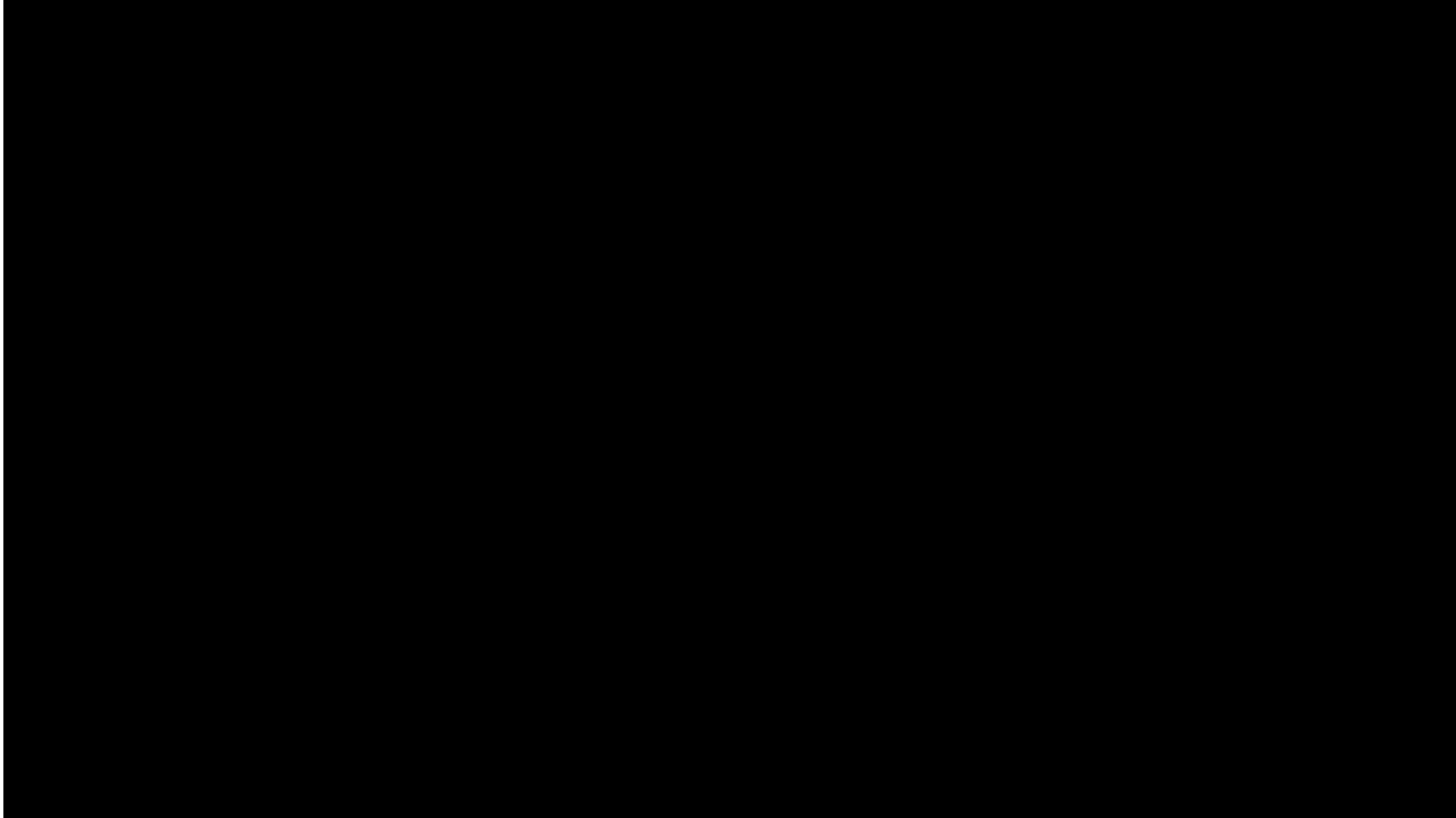
Bacteria, feeding on decaying organic matter, expel methane gas.
When the water freezes, the bubbles are suspended in the ice.



Abraham Lake, Alberta, Canada



Erupting ice needles!



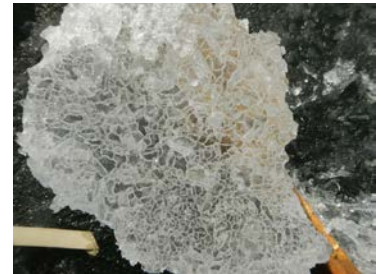
<https://youtu.be/Bz5thjvRT30?t=147>



‘Ice chandeliering’ happens as spring approaches.



- The ice cover becomes increasingly weak and brittle as it thaws during the day and refreezes during the night.
- After several cycles, the ice sheet resembles looks like a honeycomb containing thin, needle-like ice crystals.
- The winds then blow the ice toward shore.
- The ice crystals may be pushed out of the ice sheet, piling on top of each other and creating a beautiful, but quite loud, spectacle.





If you see anything unusual this winter,
be sure to share it with us!



Chelyabinsk meteorite, Russia



Did you know?



You can do your part to help keep lakes healthy in winter, too!



Put your property (and the lake!) on a low-salt and low-sand diet.



Hire a Green SnowPro
nhlakes.org/find-a-professional



Minimize the number of walkways,
driveways, & parking areas maintained.



Chloride in salt is toxic to aquatic life & fouls drinking water sources.
Sand brings phosphorus into lakes & smothers aquatic habitat.



If you must move snow:



Hire a Green SnowPro
nhlakes.org/find-a-professional



Never plow or dump snow right into a river or lake.
Avoid plowing snow onto bare soil—it doesn't soak up water very well.
Avoid plowing snow off of vegetated areas.



De-icing around a dock or boat house with a bubbler?



Install proper signage seen from all angles & register with the Town Clerk (\$0.50).

Use a system on a thermostat & timer to open up just enough water to disconnect structure from ice sheet (save \$, too!). Opening up large areas poses ecological & on-ice safety issues.



Start your LakeSmart journey!

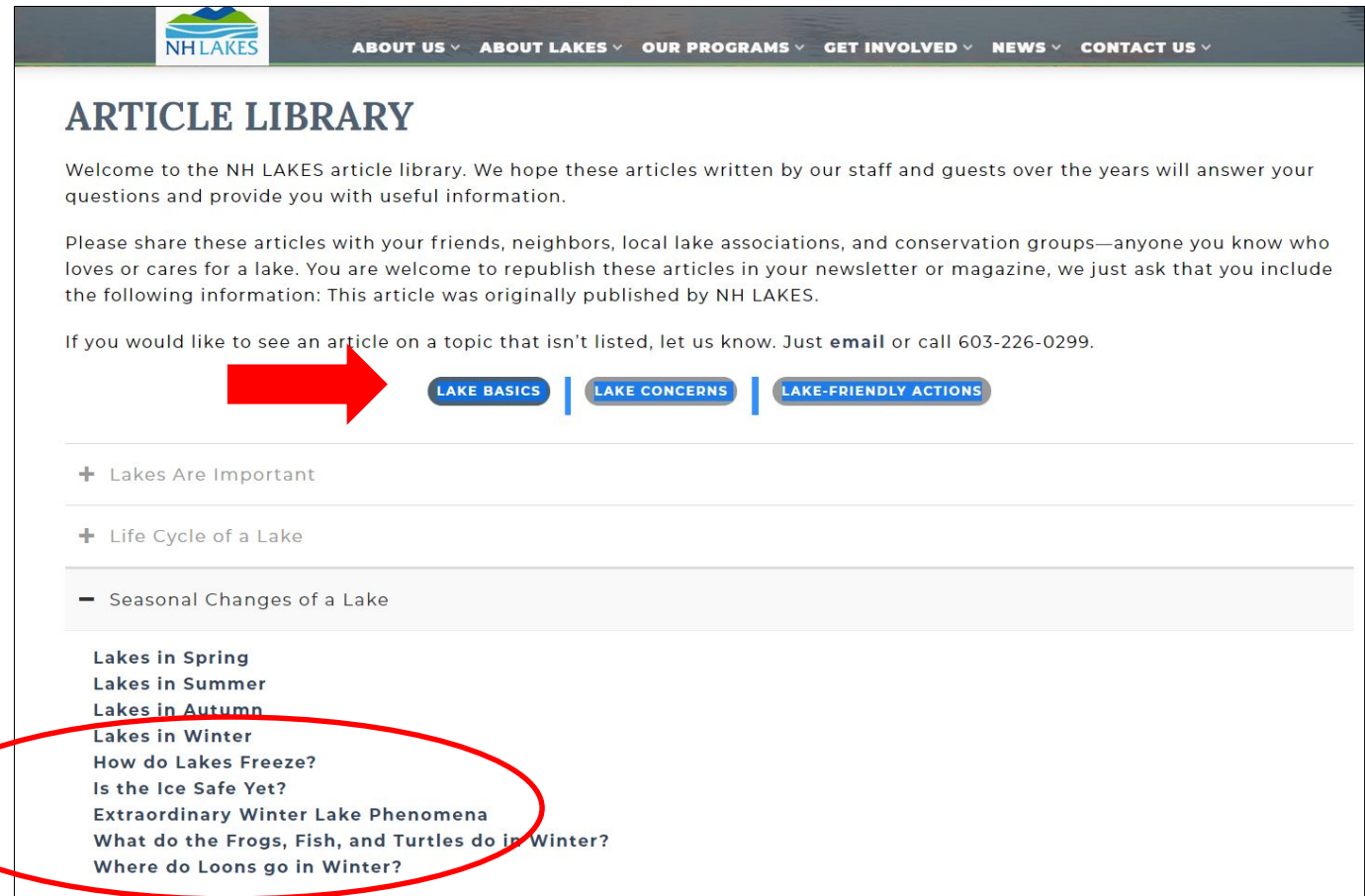
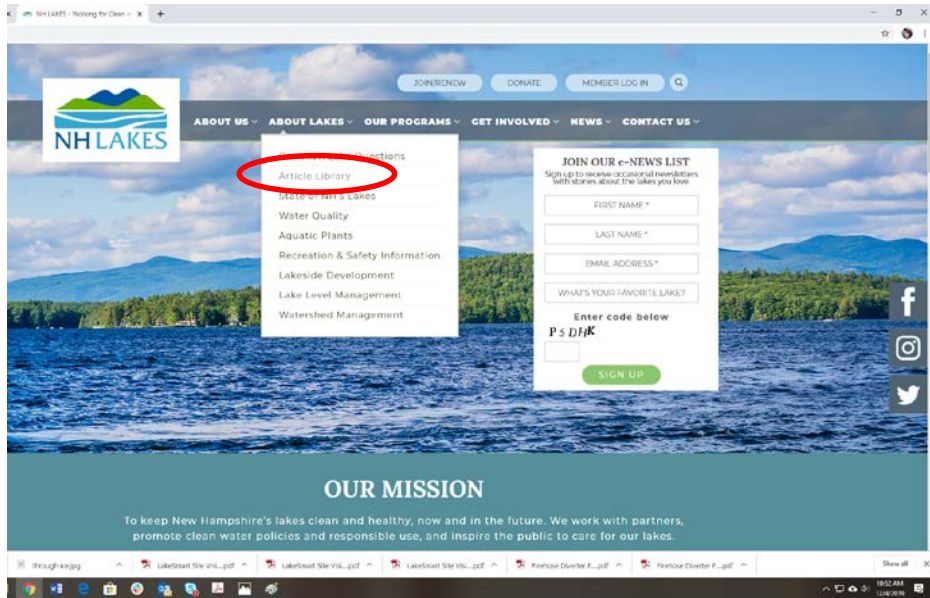
The screenshot shows the LakeSmart website interface. At the top is a banner with the LakeSmart logo (a blue water drop with a mountain inside) and the text 'LakeSmart A Lake-Friendly Living Program'. Below the banner is the title 'Property Owner Self-Assessment'. The main text reads: 'Congratulations! You are taking the first step in making lake-friendly living the new norm in your community. By taking this self-assessment you will become familiar with ways to manage your property and activities in a lake-friendly way.' It then states: 'The estimated time to complete this survey is 30 minutes - add a few extra minutes if you are submitting photos.' Below this is contact information: 'If you have problems or questions on this survey or the program, please email lakesmart@nhlakes.org or call 603.226.0299.' A red asterisk indicates a required field. At the bottom is a form labeled 'Email address *' with a placeholder 'Your email' and a text input field.



Step 1: Take the LakeSmart Property Owner Self-Assessment online.
nhlakes.org/lakesmart



Find out more about lakes in winter!





Be sure to tune in next month!

“Bald Eagles & New Hampshire’s Lakes”

Wednesday, February 3, 7:00 – 8:00 pm

Presented by:

Chris Martin, Senior Biologist
New Hampshire Audubon

Register at: nhlakes.org/explore-lakes/webinars





Questions?
Mysterious lake phenomena?