



Lakes in Spring

Presented & Hosted by NH LAKES
Wednesday, April 7, 2021

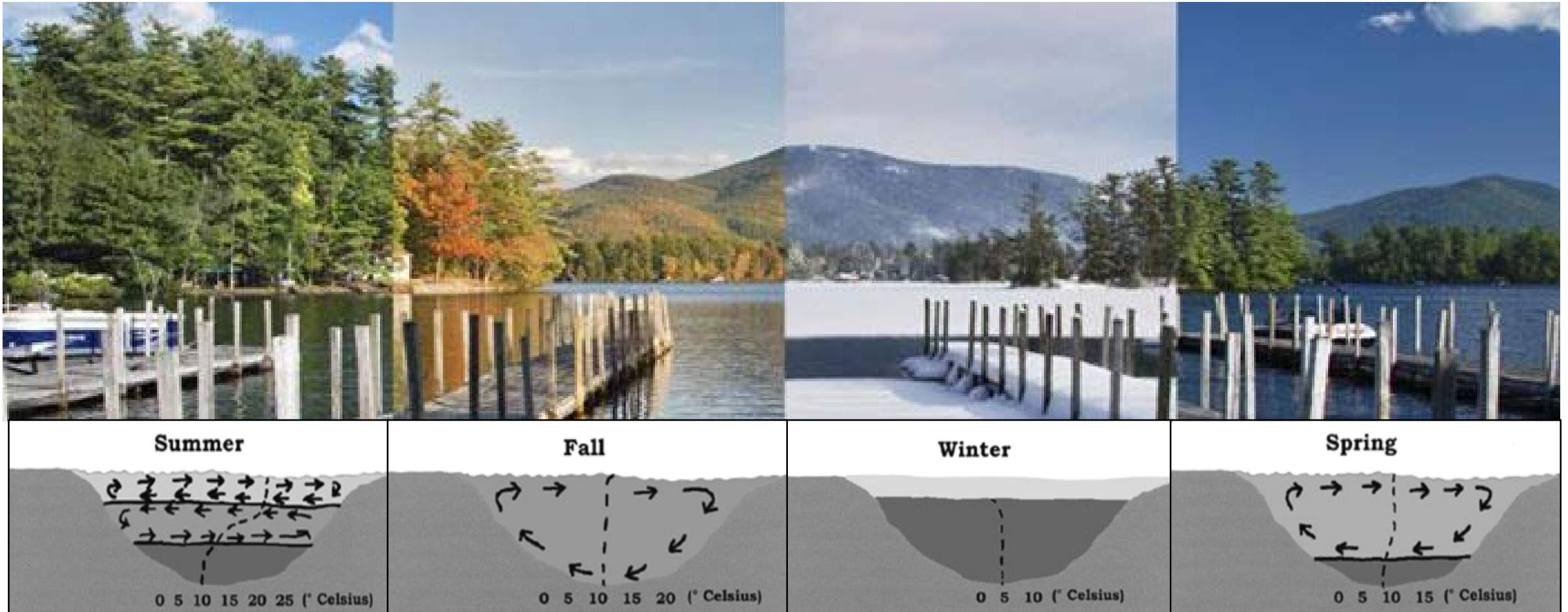


Our lakes change as the seasons change.





How the water moves in a lake changes as the season changes.





In mid-March, the ice began 'going out' on our lakes.



As of today, 'ice-out' has been called on most of our lakes!



'Ice-out' was declared on Lake Winnepesaukee on Monday, April 5, at 4:42 p.m.





But, what is 'ice-out'?!



‘Ice-out’ typically describes when ice leaves a lake in the spring.



Some consider this to be when a boat can be navigated from one end of the lake to the other, or when the lake is completely free of ice.



‘Ice-out’ on Lake Winnepesaukee is declared when the M/S Mount Washington can navigate between its ports in Alton Bay, Center Harbor, Weirs Beach, Meredith, & Wolfeboro.



Lake Winnepesaukee 'ice-out' has been recorded for 135+ years. The setting of the exact date and time is non-scientific.



These days, it's determined by an observer in a plane from Emerson Aviation that flies over several times a day. Find out more: winnepesaukee.com



'Ice-out' is an exciting time of year!



winnepesaukee.com 2021 ICE-OUT GUESS CONTEST

"Ice-Out" on **Lake Winnepesaukee** was officially declared on
Monday, April 5, 2021 at 4:42 pm

The winners of the [2021 winnepesaukee.com Ice-Out Guess Contest](https://winnepesaukee.com) are:

1. Dick L - 4/5/21 at 3:15 pm (within 1 hr, 27 minutes)
2. Mike Lennon - 4/5/21 at 11:15 am (within 5 hrs, 27 minutes)
3. Peter Elwell - 4/5/21 at 10:53 am (within 5 hrs, 49 minutes)



For many, it is the traditional start of the spring season and when many islanders regain water access to their cottages.



So, how does the ice 'go out?'



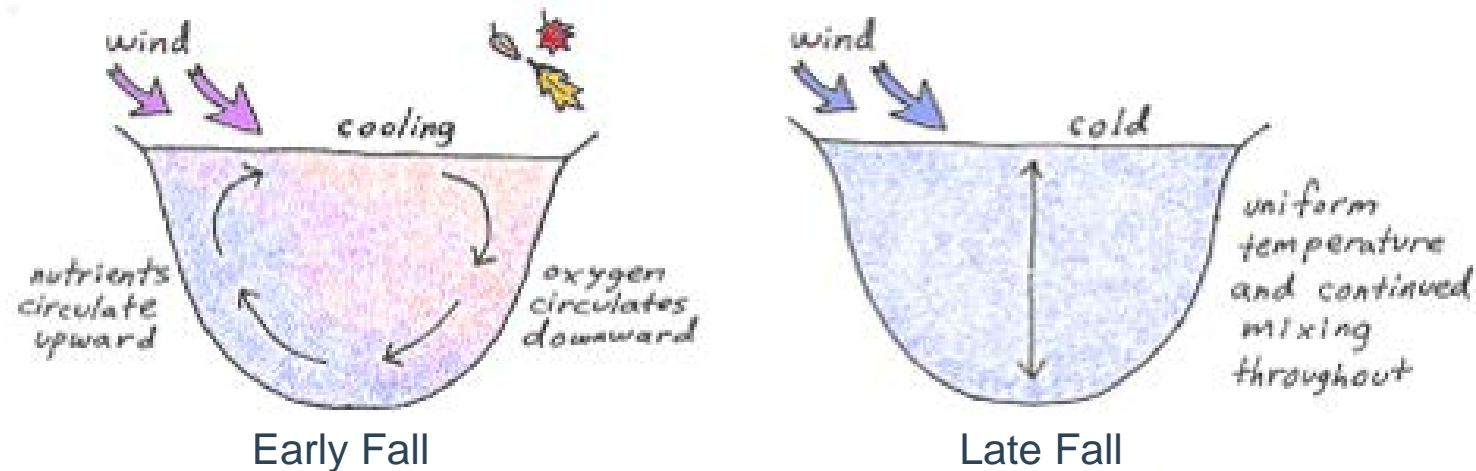
‘Ice-out’ is the reverse of ‘ice-in.’



‘Ice-in’ happens when the lake loses heat in fall.
‘Ice-out’ happens when the lake gains heat in spring.



During fall, the cooling surface water becomes heavier and it sinks, 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.

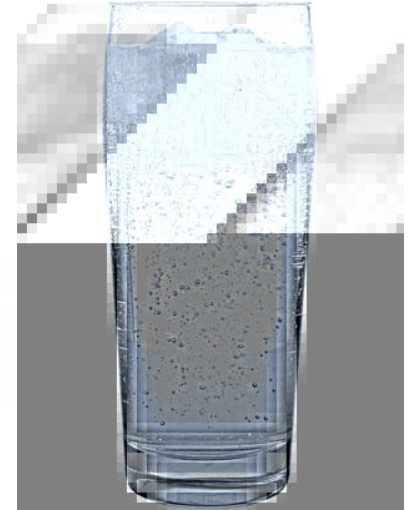
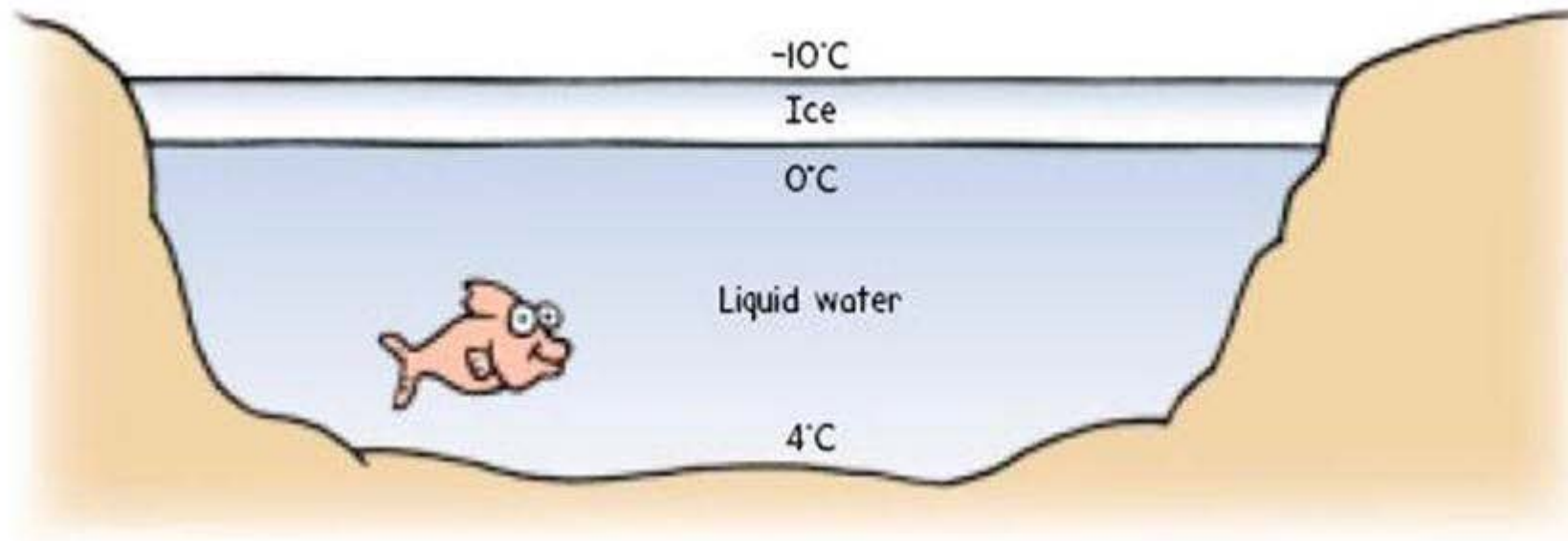


Dropping from 39 degrees to 32 degrees Fahrenheit something unique happens.

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 why lakes don't freeze from the bottom up!



Typically, during January and February, snow reflects sunlight off the lake and insulates the lake.

The lake neither gains or loses heat. The bottom sediment heats the bottom water slightly from stored summer heat.



Around March, as the air warms and the sun gets more intense, the snow melts, allowing light to penetrate through the ice.



The ice acts like a greenhouse to the lake water.
As the sun shines on and through the ice, it heats the water underneath the ice and the ice begins to melt from the bottom up.



When the ice thickness erodes to between 4 to 12 inches, it transforms into long, vertical crystals called 'candles.'



The ice starts looking black because the candles transmit sunlight into the lake instead of reflecting it. This continues to warm the lake.



As the sun continues to heat the ice, the water below the ice continues to warm.



Meltwater fills in between the ice crystals, which begin breaking apart due to winds and waves.



A windy day will break the ice sheet apart.



Crystal Lake, Gilmanton

The ice crystals will often be blown to one side of the lake, making a tinkling sound as they pile up against each other and onto shore.



Lake Sunapee, April 6, 2021



Newfound Lake, April 6, 2021

How fast the ice 'goes out' depends upon how sunny and windy conditions are.



Have you reported 'ice-out' yet?

2020/2021 Ice In and Out Reports					
Ice-In Date	Ice-Out Date	Total Days of Ice Cover	Total Weeks of Ice Cover	Lake Name	Town
12/9/2020				Frost Pond	Jaffrey
12/9/2020				Flints Pond	Hollis
12/9/2020	3/21/2021	102	14.6	Wilson Pond	Swansey
12/9/2020				Contoocook Lake	Jaffrey
12/9/2020				Lees Pond	Moultonborough
12/9/2020				Tucker Pond	Salisbury
12/10/2020				Shellcamp Pond	Gilmanton
12/11/2020				Long Pond	Danville
12/11/2020				Norway Pond	Hancock
12/11/2020				Governors Lake	Raymond
12/12/2020				Hermit Lake	Sanbornton
12/12/2020				Spectacle Pond	Groton
12/14/2020				Rand Pond	Goshen
12/14/2020				Hothole Pond	Loudon
12/15/2020				Monomonac Lake	Rindge
12/15/2020				Canaan St. Lake	Canaan
12/16/2020				Pine Island Pond	Manchester
12/16/2020				Chase Pond	Wilmot
12/16/2020				Lower Beech Pond	Tuftsboro
12/16/2020				Halfmoon Lake	Barnstead
12/16/2020				Goose Pond	Canaan
12/16/2020				Hawkins Pond	Center Harbor
12/16/2020				Sunrise Lake	Middleton
12/16/2020				Showell Pond	Sandown
12/16/2020	3/18/2021	92	13.1	Powwow Pond	East Kingston
12/17/2020				Wicwas Lake	Meredith
12/17/2020				Highland Lake	Andover
12/17/2020				Eastman Lake	Grantham
12/17/2020	3/24/2021	97	13.9	Pearly Pond	Rindge
12/18/2020				Webster Lake	Franklin
12/18/2020				Mascoma Lake	Enfield
12/18/2020				Mirror Lake	Tuftsboro
12/19/2020	3/23/2021	94	13.4	Cobbetts Pond	Windham

Ice-In and Ice-Out Record

VERSION 4.9



INSTRUCTIONS

NHDES-W-07-028 | 2019-07-19
Watershed Management Bureau
Voluntary

This form is used to submit lake ice-in and ice-out data.

You do not need to sign in to submit this form. To submit without signing in, simply click "Begin Form Entry" and then click "Continue as Guest User".



Begin Form Entry



Download Mail-in Form

tinyurl.com/NH-Ice-out



On average, 'ice-in' is occurring later in fall and 'ice-out' is occurring earlier in spring.



A shorter period of ice cover means a longer growing season for plants (invasive plants, too!), algae, and toxic cyanobacteria.



A shorter period of ice cover, thinner ice cover, and less solid ice reduces opportunities for on-ice activities.



Less ice on our lakes also means less tourism revenue for local economies and the state economy.



But, here's some good news about the ice 'going out'...

(Photo credit: Emerson Aviation)

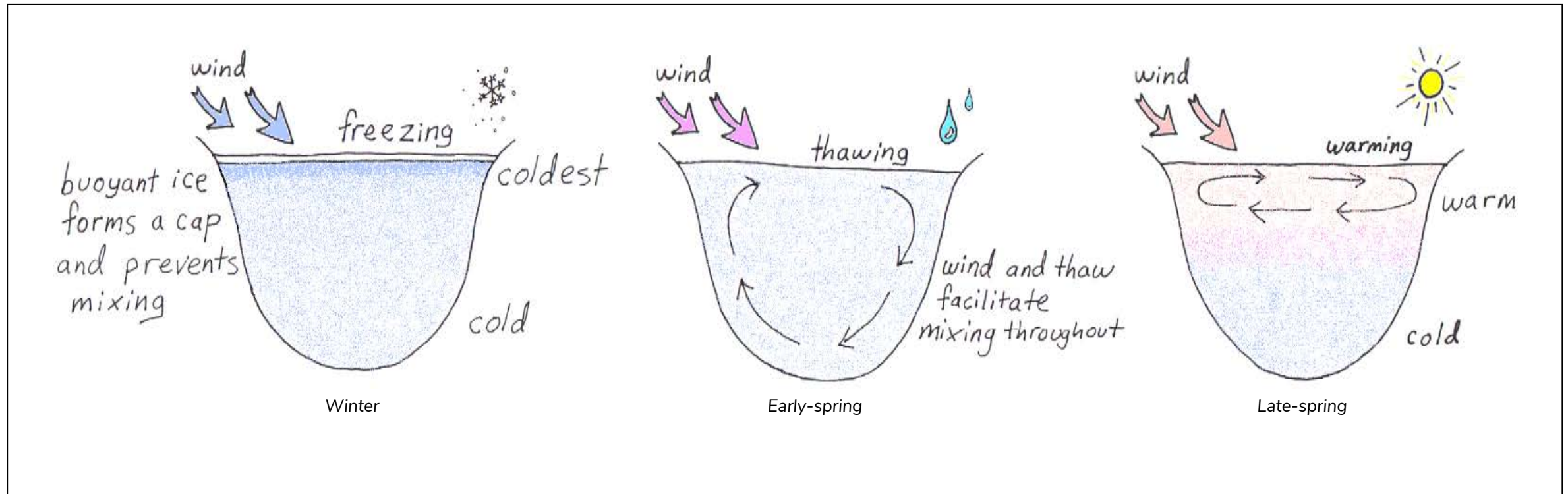


'Ice-out' means the loons are in!



Report loon sightings to the Loon Preservation Committee!
Volunteer Observation Report: loon.org/volunteer-observation-report

During spring, our lakes experience rejuvenation!





Wind mixes oxygen into the water,

bringing relief to the fish and other organisms in the lake
that rely on this vital compound.



Snow melt and spring rains wash important nutrients into the lake that help plants and algae grow...



...but, hopefully not too many nutrients!



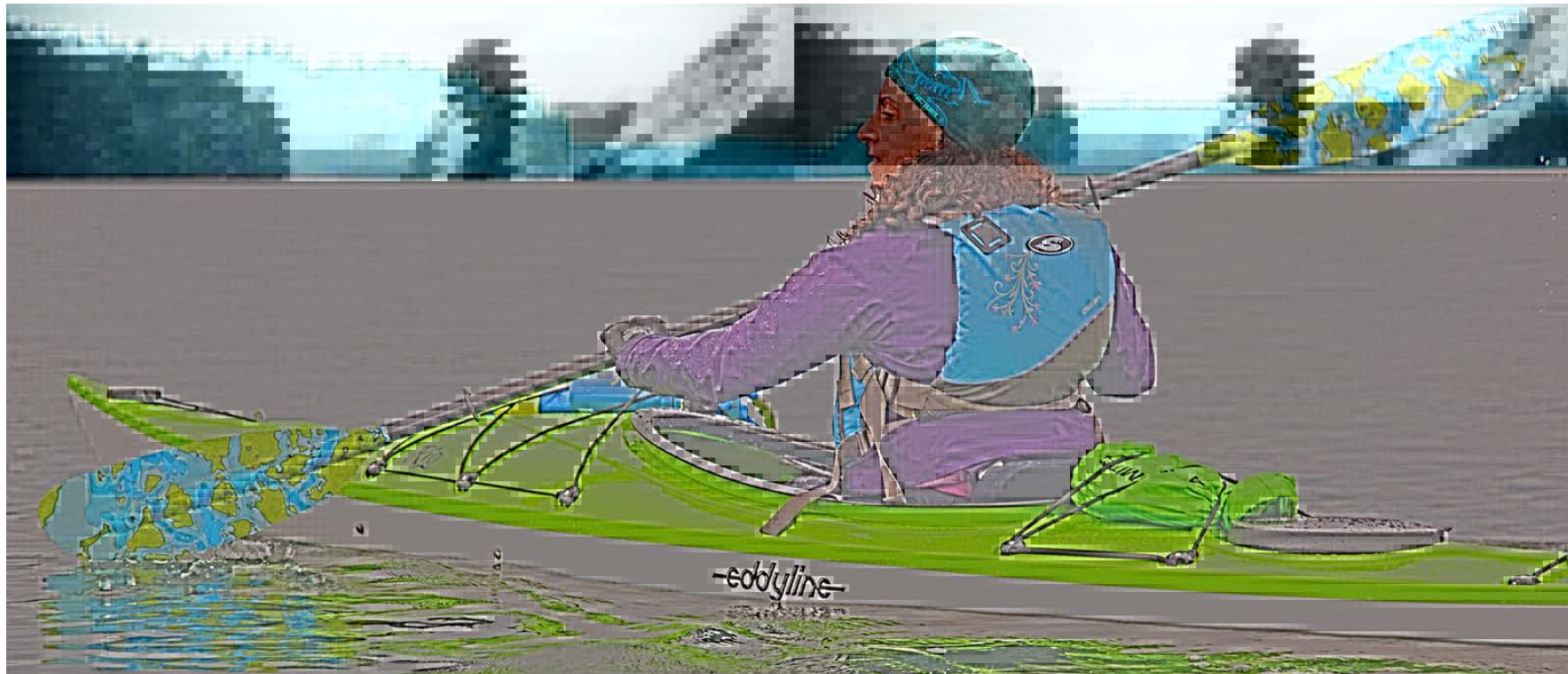
The sun's intensity increases every day, slowly warming up the surface of our lakes.



In a few months, you'll be able to take that first dip!



But, until then, if you venture out onto the lake...



be prepared for cold water.



LakeSmart Tips for Lake-Friendly Living in Spring



Spring is a great time renew your commitment to helping keep the lake(s) you live near and love clean and healthy!



Sweep driveways and walkways to remove leftover sand used for snow and ice management so spring rains don't wash it into the lake.



This sand can destroy fish spawning and nesting areas, clog fish gills, add to mucky lake bottoms, and bring in nutrients accelerating plant, algae, and cyanobacteria.



Survey your property for areas where runoff water has washed soil away. Divert runoff water away from these areas and stabilize surfaces.



Soil washed into our lakes adds to mucky lake bottoms and brings in nutrients, accelerating plant, algae, and cyanobacteria growth.



Inspect your septic system tank area and leach field for signs of malfunction—soggy areas, bright green grassy areas, and odors.



If you have any concerns, or if it has ‘been a while’ since the system has been inspected/pumped, reach out to a certified professional. Malfunctioning systems can pollute lakes with nutrients and bacteria.



Clean up pet waste in your yard—it has been a long winter!



Pet waste can contain harmful bacteria.



Refrain from fertilizing your lawn.



Phosphorus-free!



Fertilizer washed into the lake accelerates plant, algae, and cyanobacteria growth. If you feel the need to fertilize, get a soil test, and consider using phosphorus-free fertilizer.



Clean out fishing tackle boxes to remove any tackle that may contain the metal lead. You may be able to trade it in!



**LEAD TACKLE
BUYBACK**

Get a \$10 Voucher







*to trade in your lead
& go loon safe instead!*

Lead is toxic to loons and other wildlife (and people, too!)
Find out more: loonsafe.org



For more DIY information and for links to professionals that can help, visit:

LakeSmart Resource Library

 <p>THE LAKESMART BOOK</p> <p>LEARN MORE</p>	 <p>YARD, LAWN, AND GARDEN</p> <p>LEARN MORE</p>	 <p>ALONG THE SHORELINE AND IN THE WATER</p> <p>LEARN MORE</p>
 <p>DRIVEWAYS, PARKING AREAS, AND PLOWING</p> <p>LEARN MORE</p>	 <p>HOME, STRUCTURES, AND SEPTIC</p> <p>LEARN MORE</p>	 <p>FIND A PROFESSIONAL</p> <p>LEARN MORE</p>

nhlakes.org/lakesmart-resource-library



Share these tips with your friends and neighbors, and encourage them to try them, too!



With your help, lake-friendly living can become the norm.



If you haven't already, start your LakeSmart lake-friendly living journey this spring!





LakeSmart is an education, evaluation, and recognition program that helps property owners take action to live in a lake-friendly way.



It is free, voluntary, and non-regulatory.
No one will get “in trouble” by participating!



How an individual property owner participates:

- LakeSmart begins with an online self-assessment.
- Property owners pledge to adopt lake-friendly living practices and receive information and links to service provider partners that can help.
- When a property owner thinks they are close to being LakeSmart, they request a property evaluation by a trained LakeSmart Evaluator.





By living in a lake-friendly way...



...we will keep the lakes we all love clean and healthy, now and in the future!



And, a special thanks to Grappone Automotive Group
for their partnership!