Wed., August 12, 7pm: Managing Recreational Safety on NH's Lakes

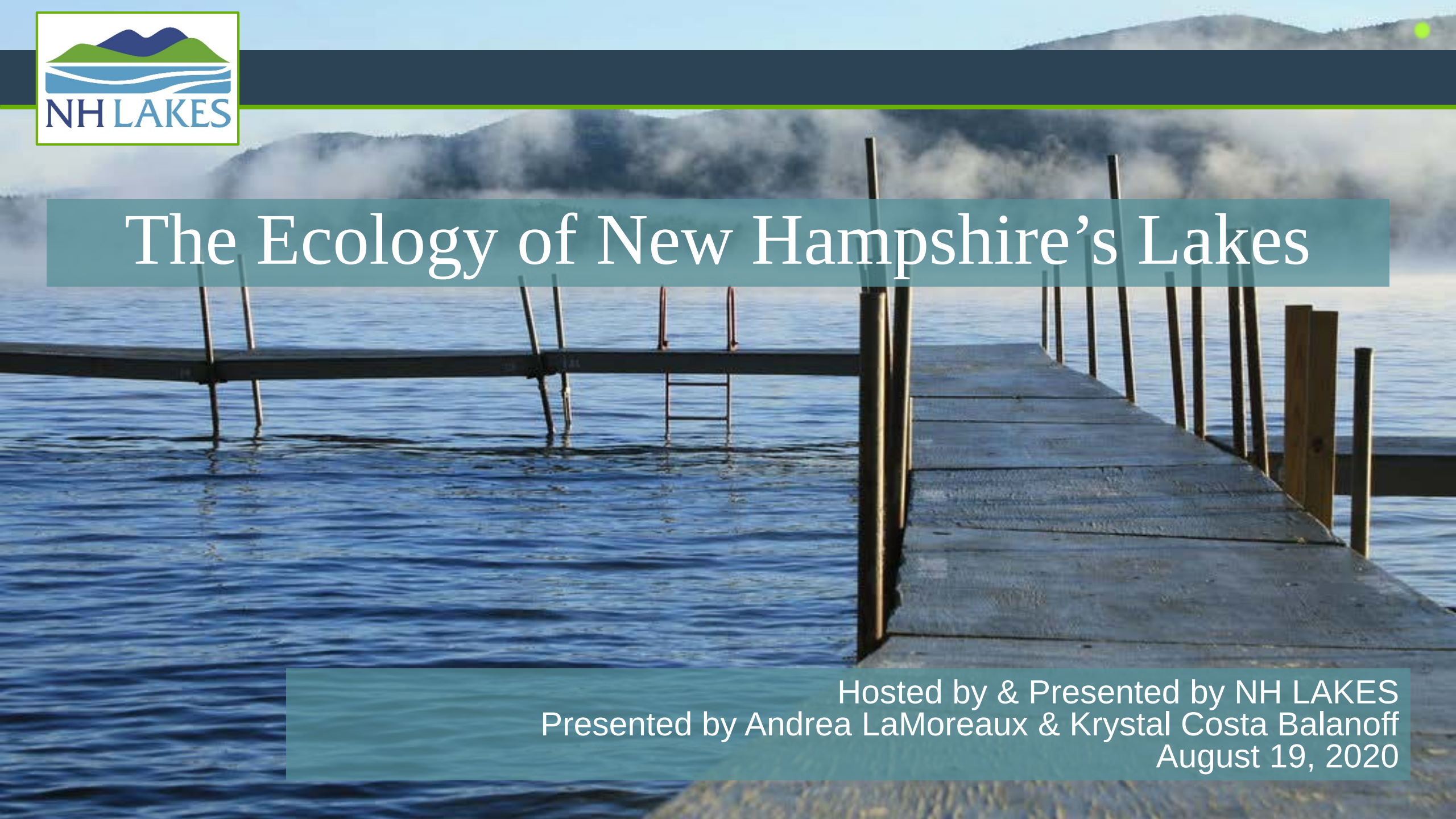
Wed., August 19, 7pm: The Ecology of NH's Lakes

Wed., August 26, 7pm: The Ecology & Management of Plants in NH's Lakes

Wed. September 2, 7pm: The Ecology & Management of Fish in NH's Lakes – JUST ADDED!

View slides and recordings at: nhlakes.org/ecology-and-management-webinars

While we're waiting, please introduce yourself & your favorite lake in the chat box below!



The Ecology of New Hampshire's Lakes

Hosted by & Presented by NH LAKES
Presented by Andrea LaMoreaux & Krystal Costa Balanoff
August 19, 2020

Meeting Management

- This session is being recorded.
- Participants will be muted for the duration of the webinar.
- If you leave your camera on, remember others can see you! ☺
- Please submit questions in the chat box at the bottom of the screen for everyone to see – do not direct to presenters.
- Questions will be answered at the end of the presentation.
- After this session, you will receive an email inviting you to evaluate the session, and another email with links to the presentation posted on our website.

Your Hosts This Evening:

Andrea LaMoreaux
Vice President
NH LAKES

Krystal Costa Balanoff
Conservation Program Coordinator
NH LAKES

Jessica Sayers
Conservation Program Assist.
NH LAKES

NH LAKES Story:

We’re the only member-supported nonprofit organization working for all of New Hampshire’s 1,000 lakes. Please become a member or donate today at:

Our Mission is to…

…keep NH's lakes, clean and healthy, now and in the future. We work with partners, promote clean water policies and responsible use and inspire the public to care for our lakes.

Our Programs:

Advocacy

Conservation

Outreach

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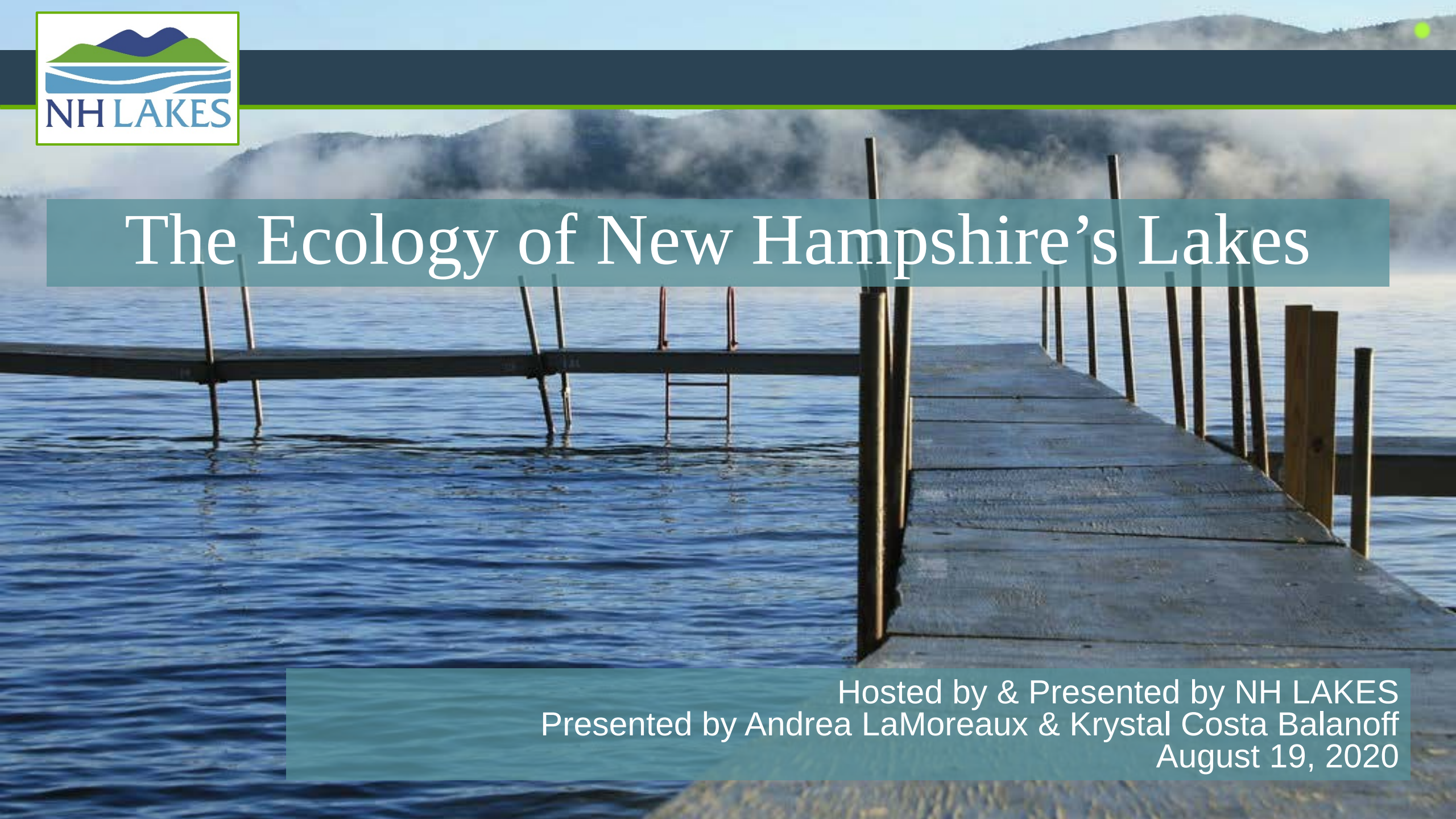

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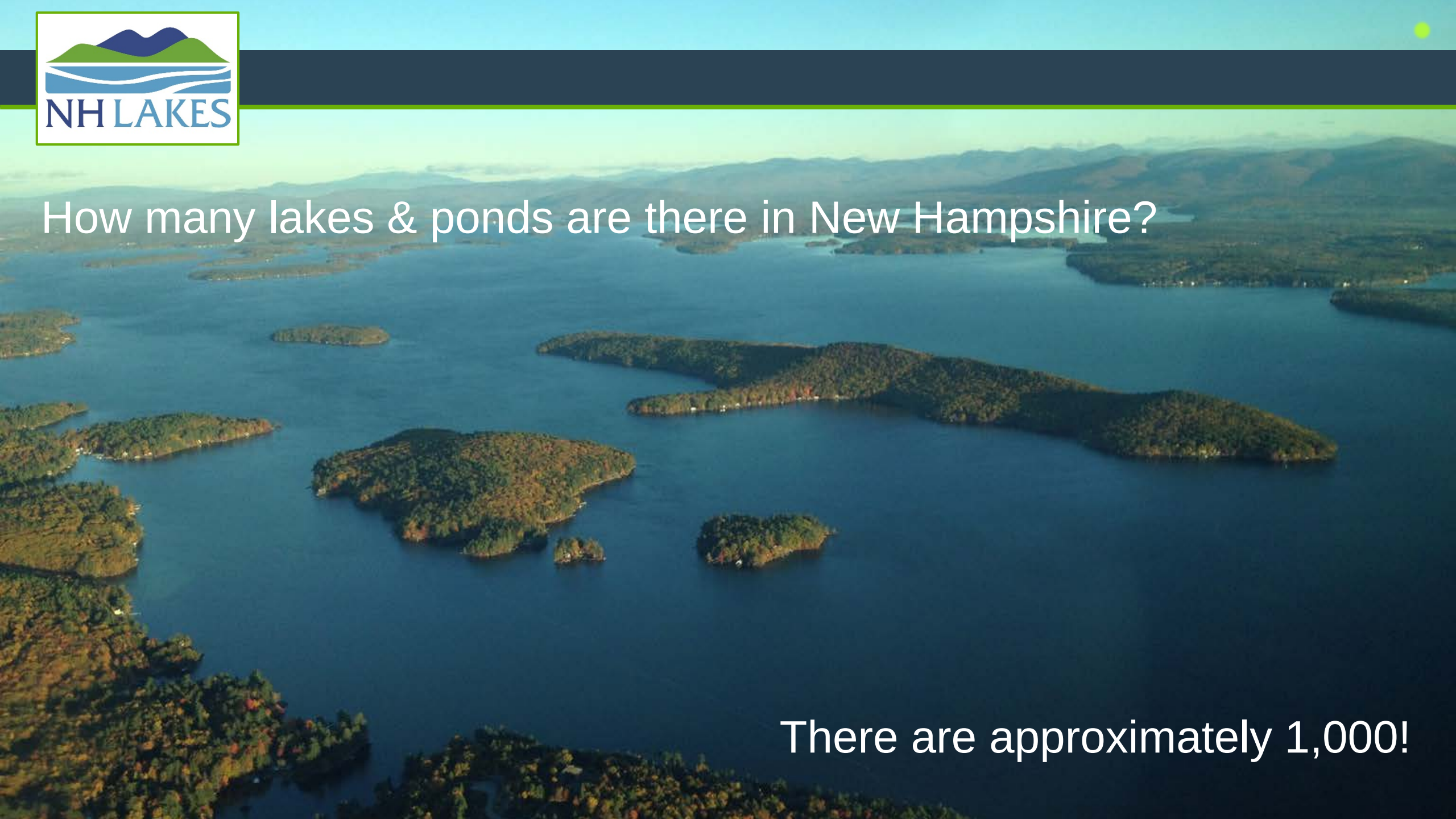
NH LAKES
How many lakes & ponds are there in New Hampshire?
There are approximately 1,000!


NH LAKES
There’s something for nearly everyone
when it comes to our lakes & ponds!


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Here in New Hampshire, we can enjoy our lakes during winter, too!


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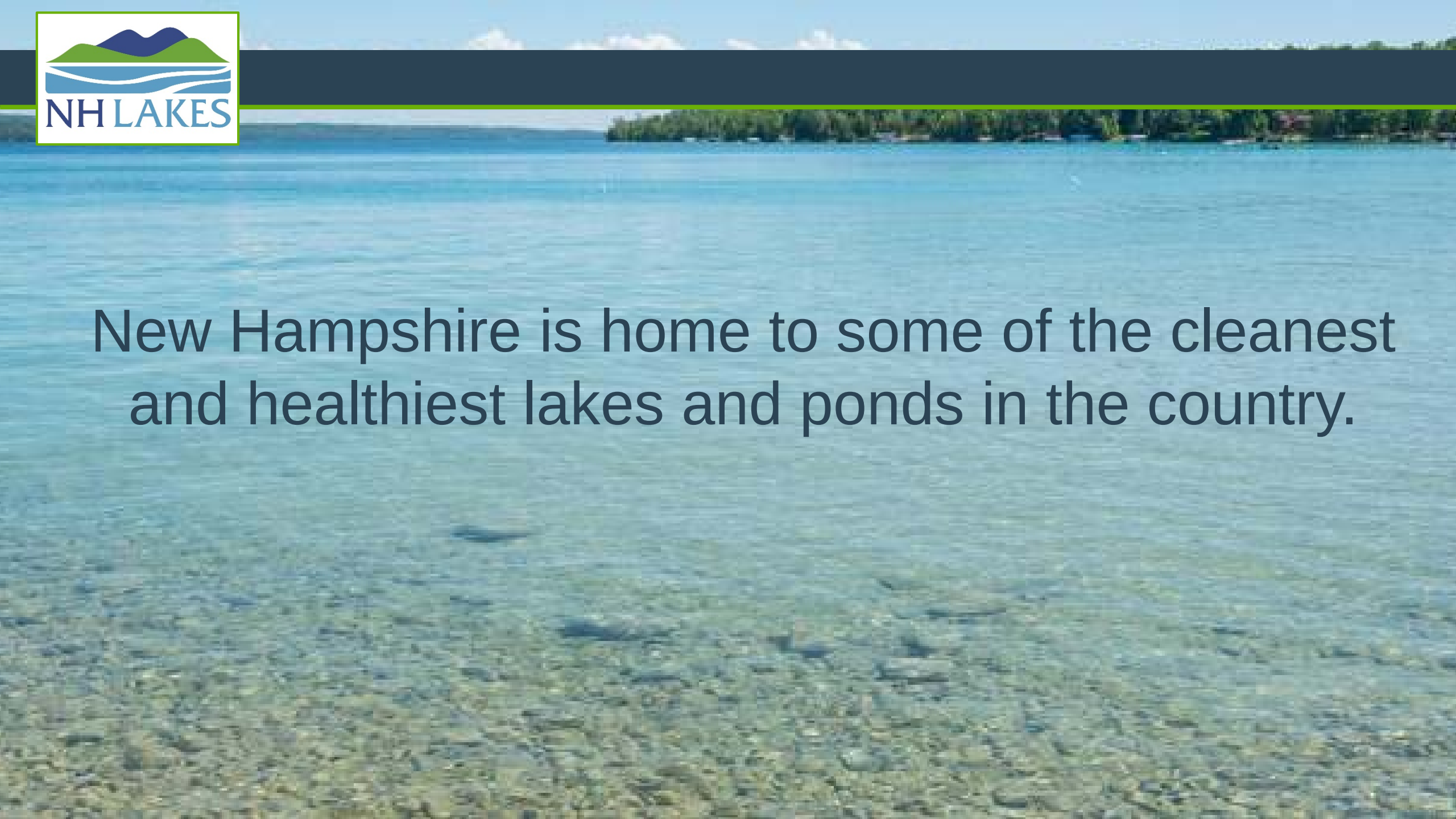
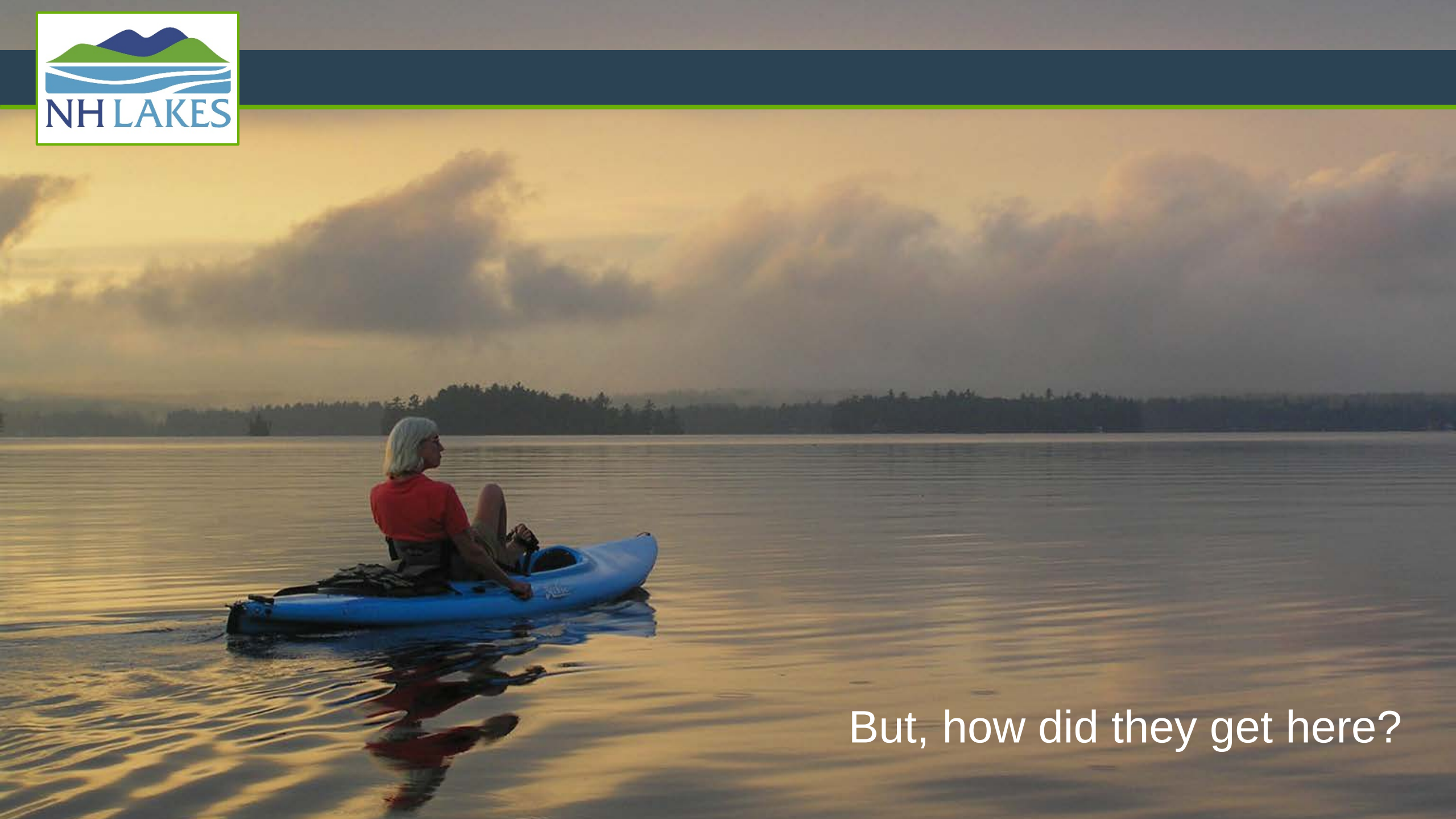
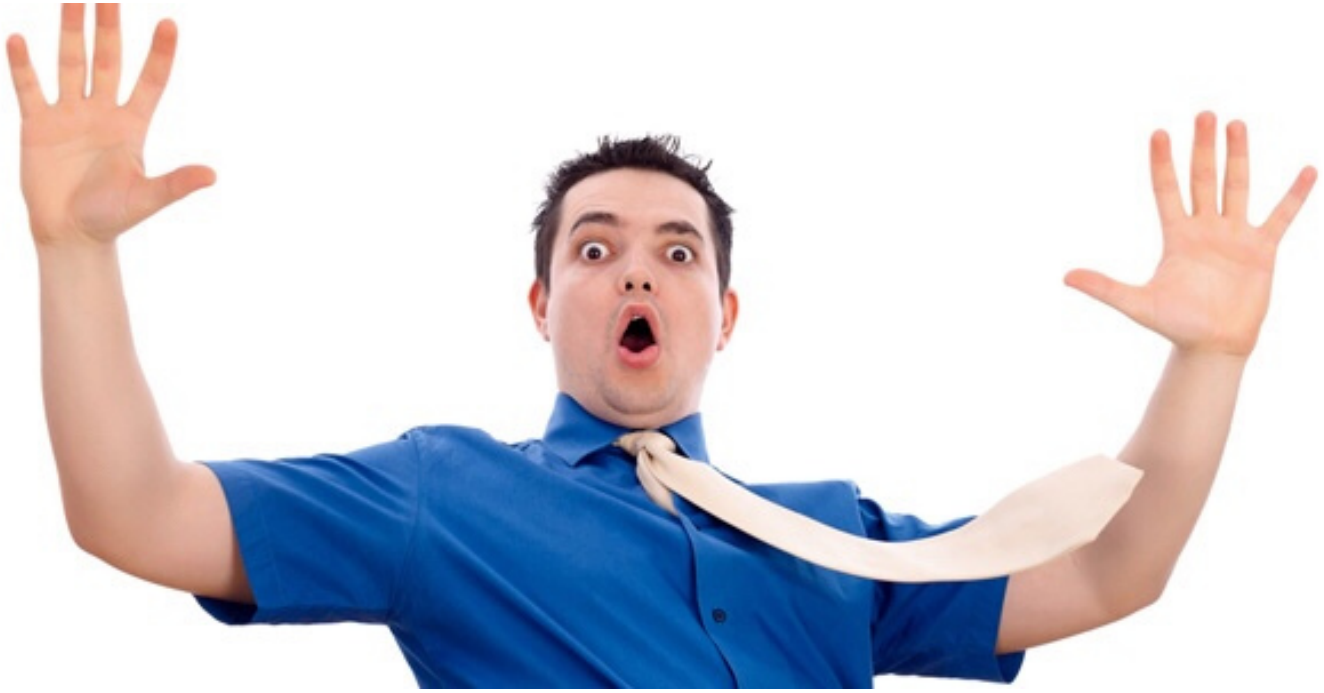
Lakes & ponds are an integral part of New Hampshire's quality of life, economy, & natural heritage.



New Hampshire is home to some of the cleanest and healthiest lakes and ponds in the country.


NH LAKES
But, how did they get here?

Hold on!



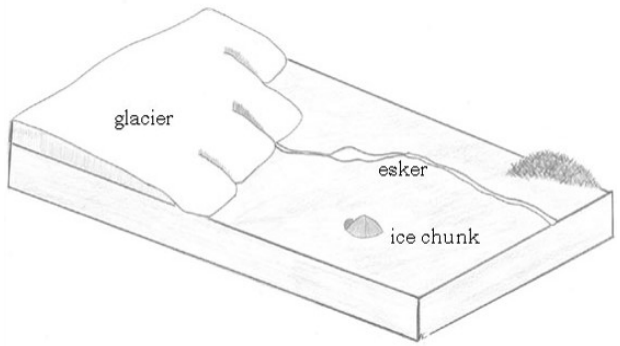
What is the difference between a lake and a pond?!

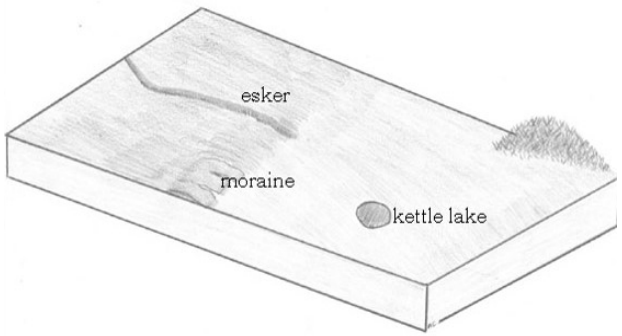
The naming of a waterbody as a lake or pond is arbitrary in NH. The early settlers named most waterbodies.

Loon Lake, Plymouth
45 acres in area
29 feet at deepest point

Loon Pond, Gilmanton
49 acres in area
45 feet at deepest point

How did our lakes get here?





Most our lakes were formed 15,000 years ago with the retreat of the glaciers.

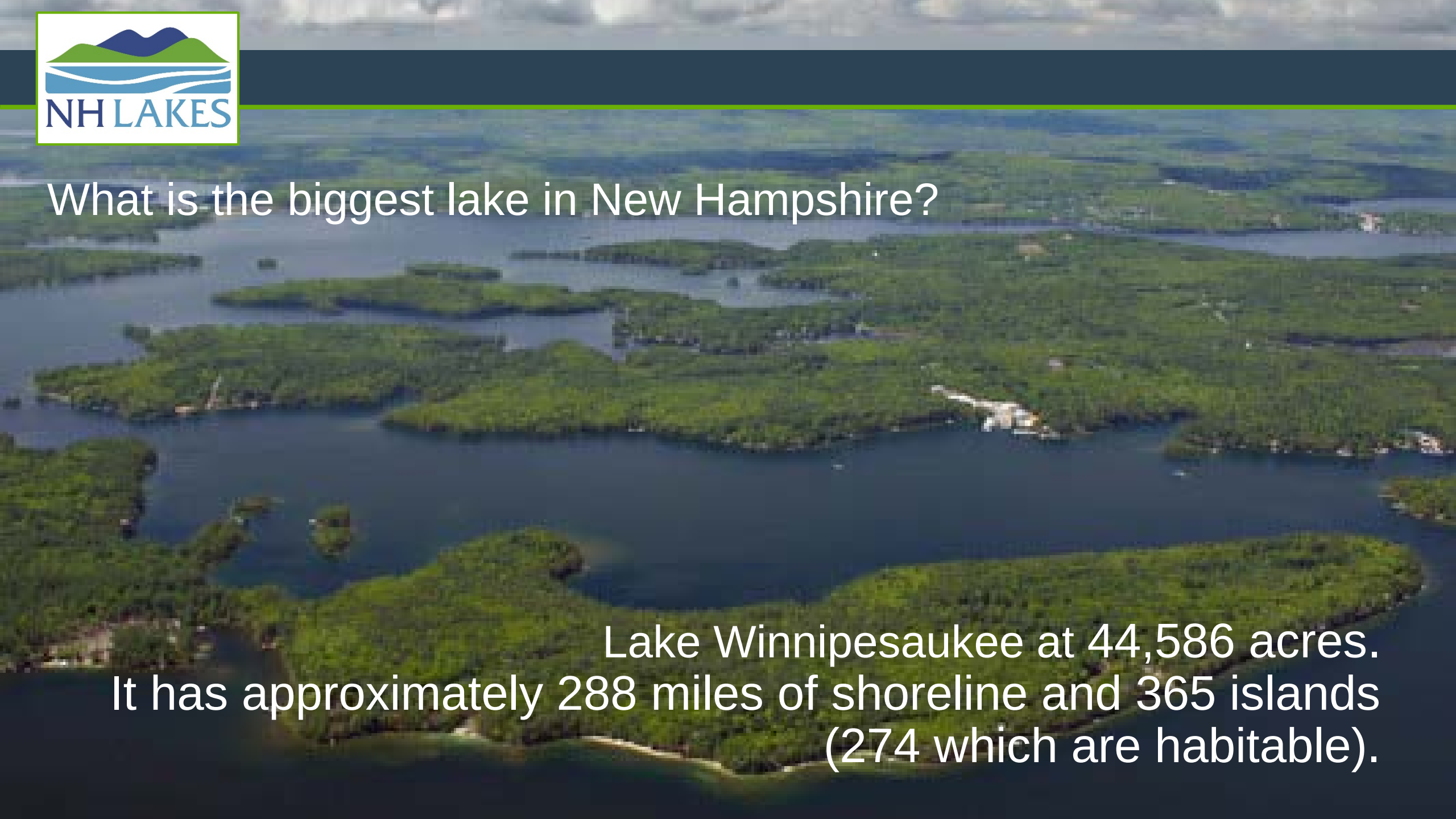
And, some of New Hampshire's lakes were formed by:

Landslides
(Profile Lake, Franconia)

Meandering Rivers
(Horseshoe Pond, Concord)

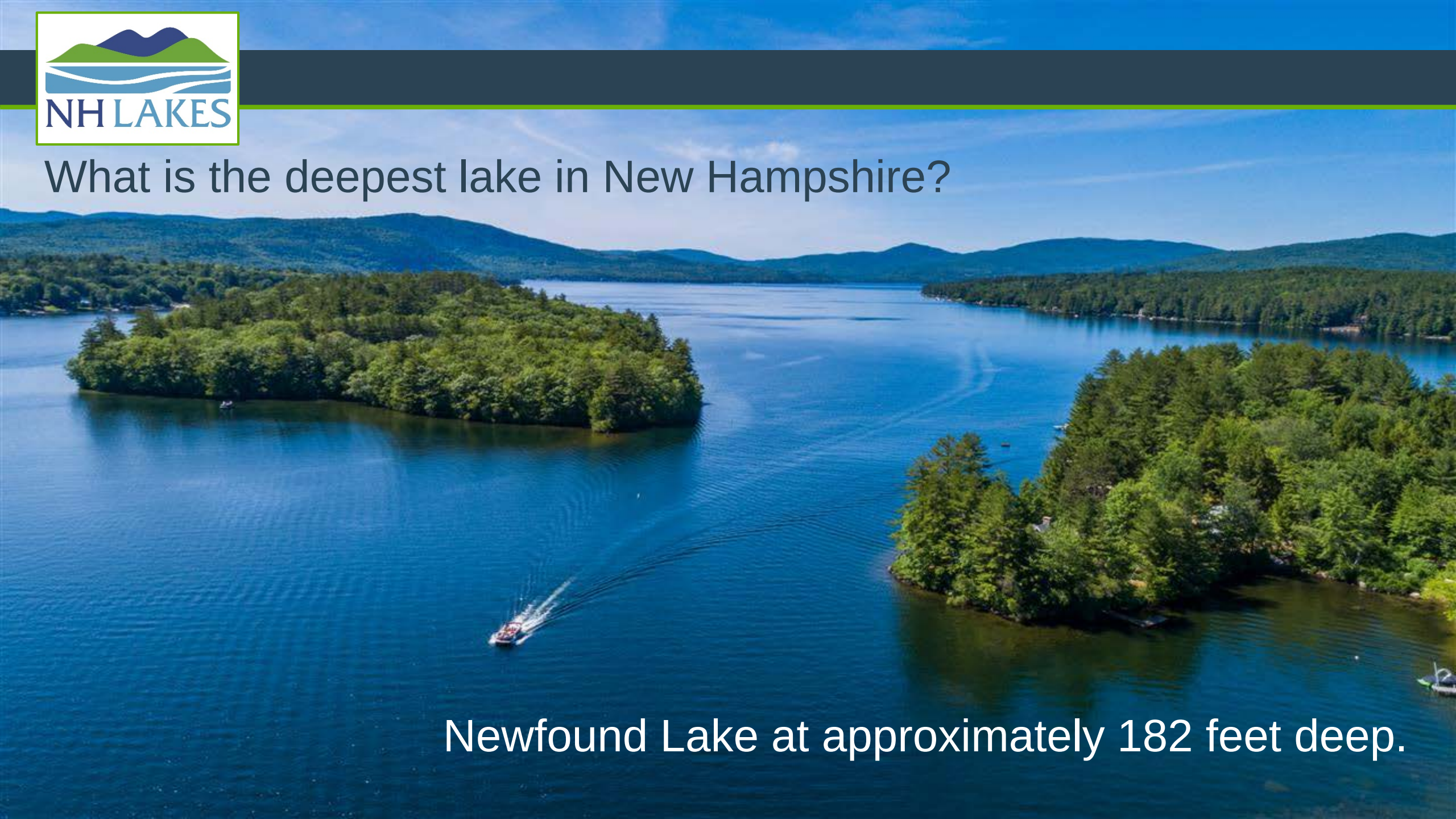
Dams
(Moore Reservoir, CT River)

Many of our natural lakes are regulated (and some made bigger) by dams.



What is the biggest lake in New Hampshire?

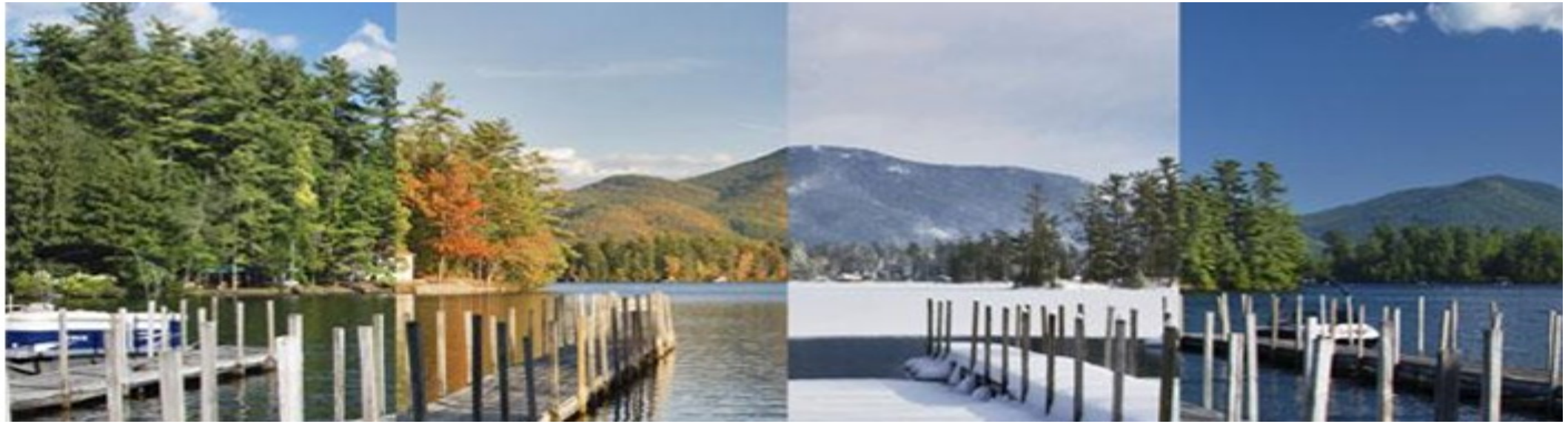
Lake Winnipesaukee at 44,586 acres.
It has approximately 288 miles of shoreline and 365 islands
(274 which are habitable).



What is the deepest lake in New Hampshire?

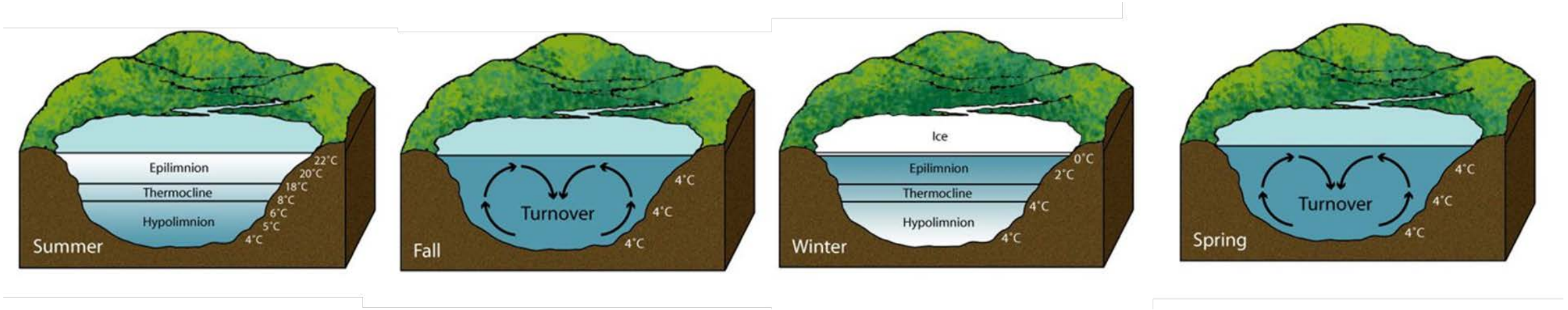
Newfound Lake at approximately 182 feet deep.

Our lakes change as the seasons change.

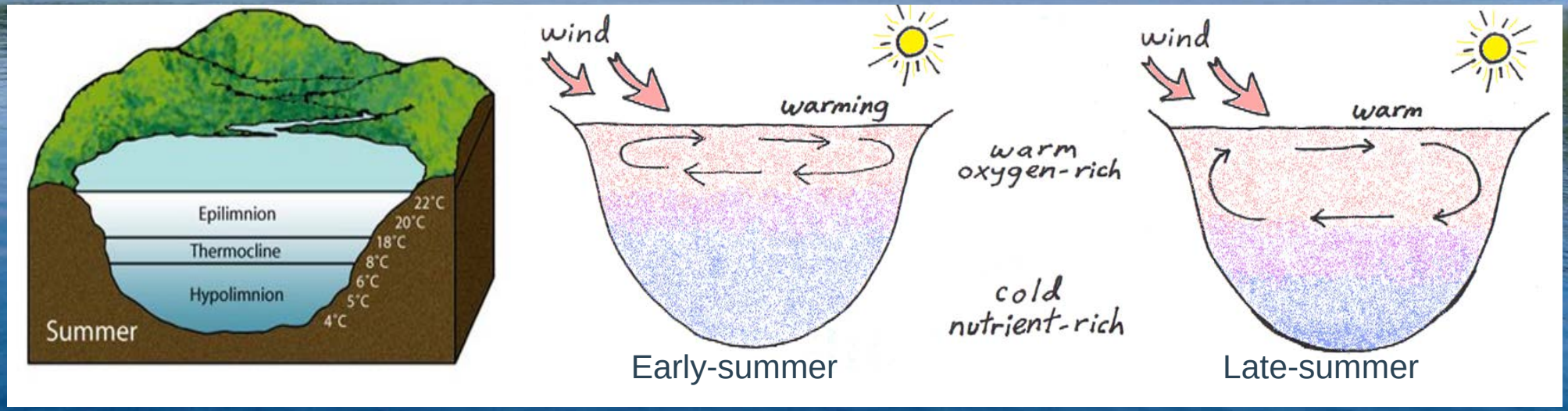


Summer Fall Winter Spring

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

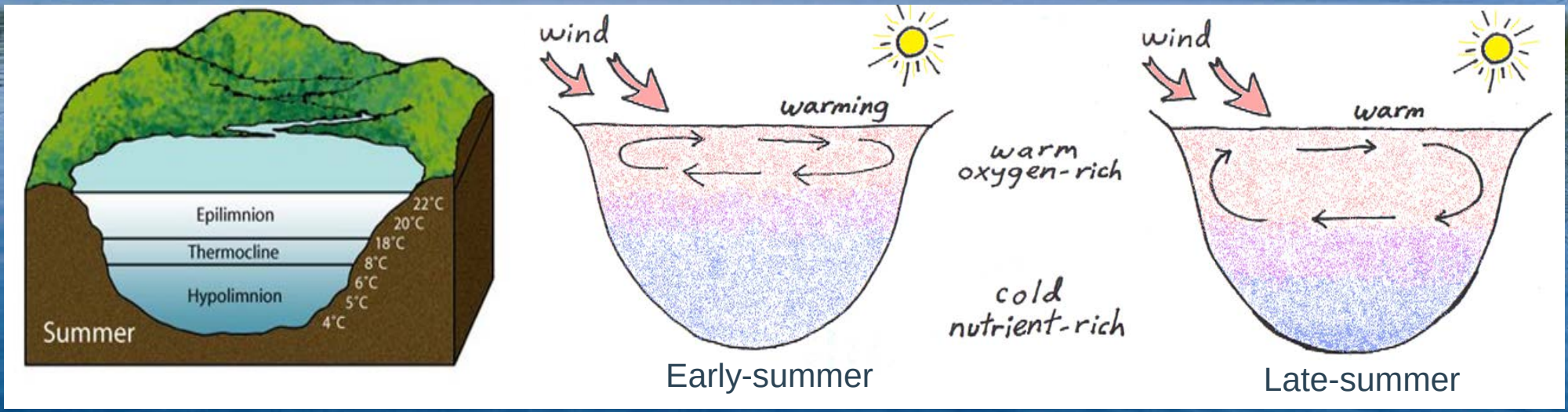


During summer...



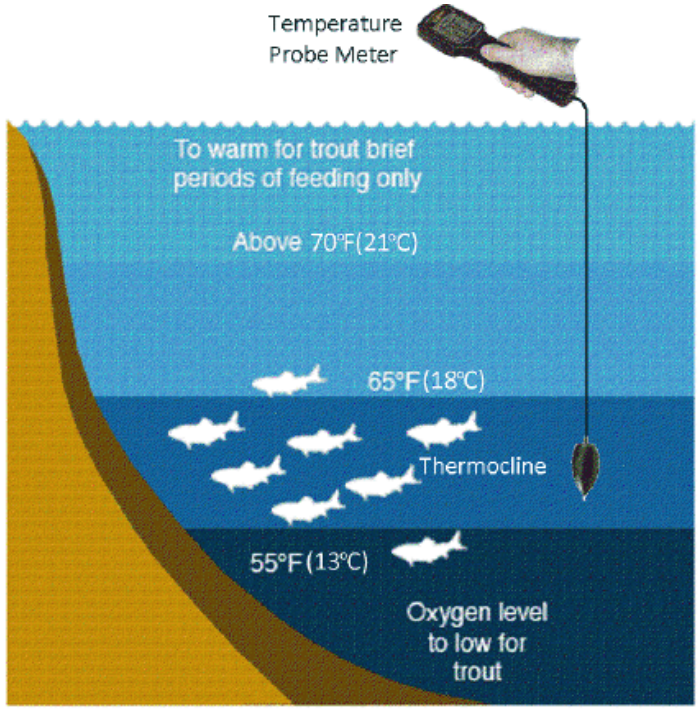
our deeper lakes divide into three layers based on temperature. Warmer (less dense) water near the surface floats on the cooler (denser) water below.

As summer goes on…



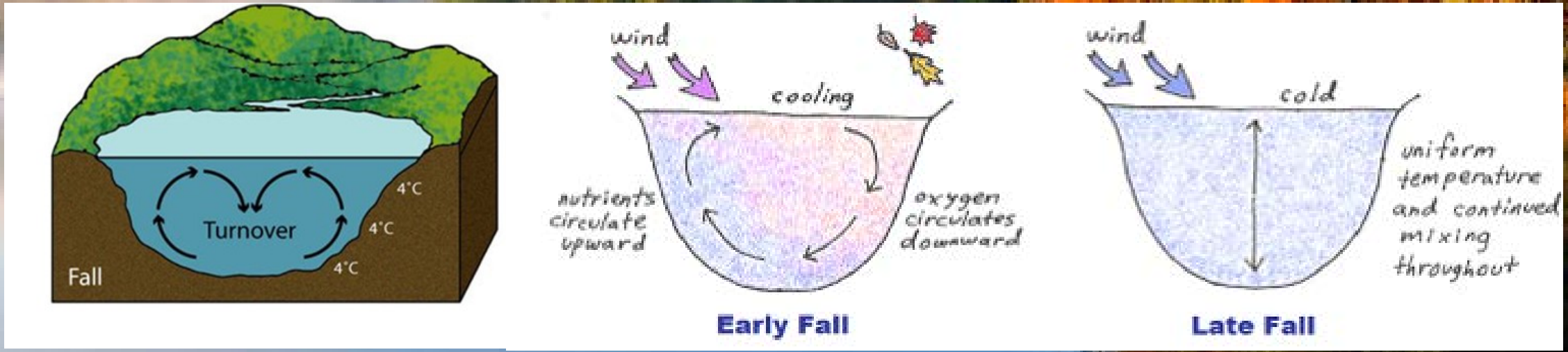
the middle layer of rapidly changing temperature moves down, and the bottom layer is ‘sealed off’ from the atmosphere. Oxygen gets used up in bottom layer and nutrients build up.

Anglers like to find the ‘cline.’



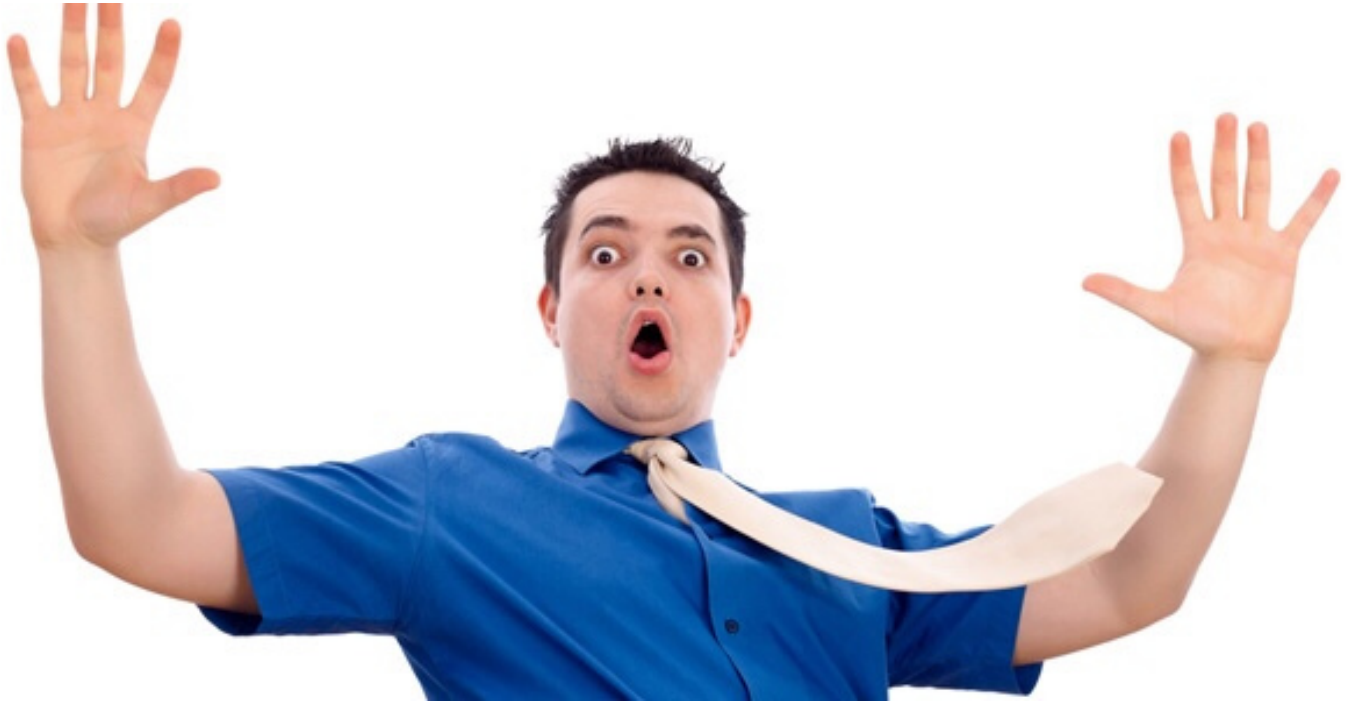
This is where the fish like to hang out due to high oxygen, cooler waters than the surface, and lots of plankton (food!).

Lakes in Fall

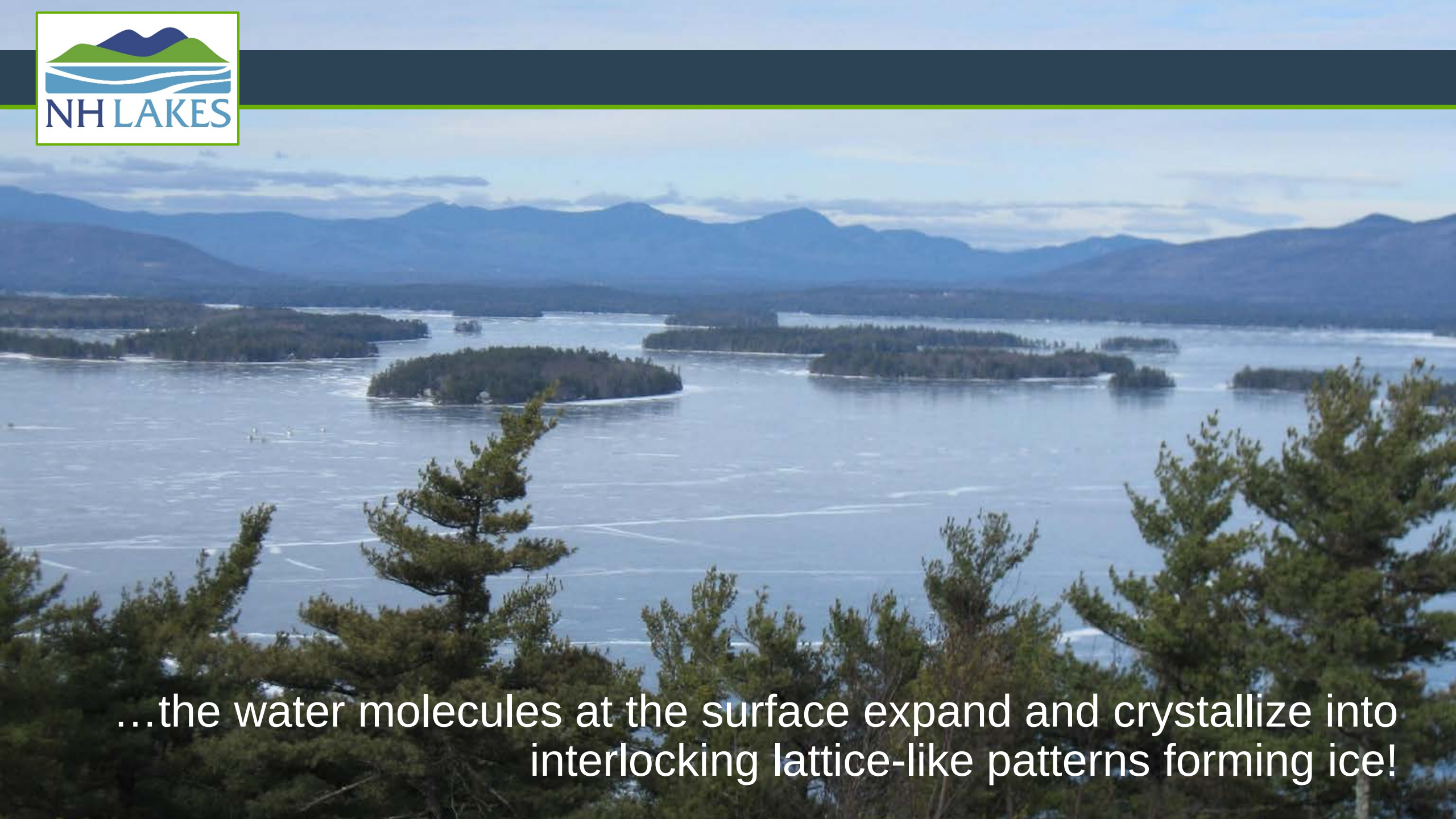


Lakes loose heat (energy) and are fully mixed by wind, distributing oxygen and nutrients throughout the water, setting the stage for winter.

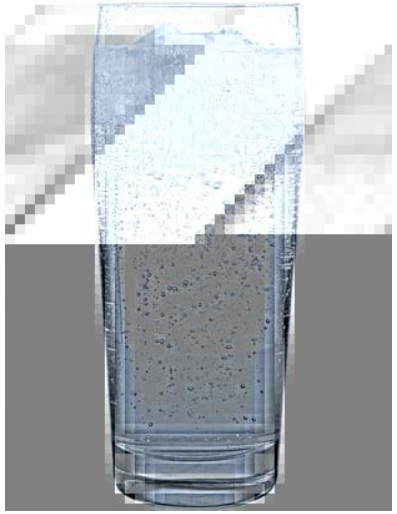
Lakes in late-fall/early-winter

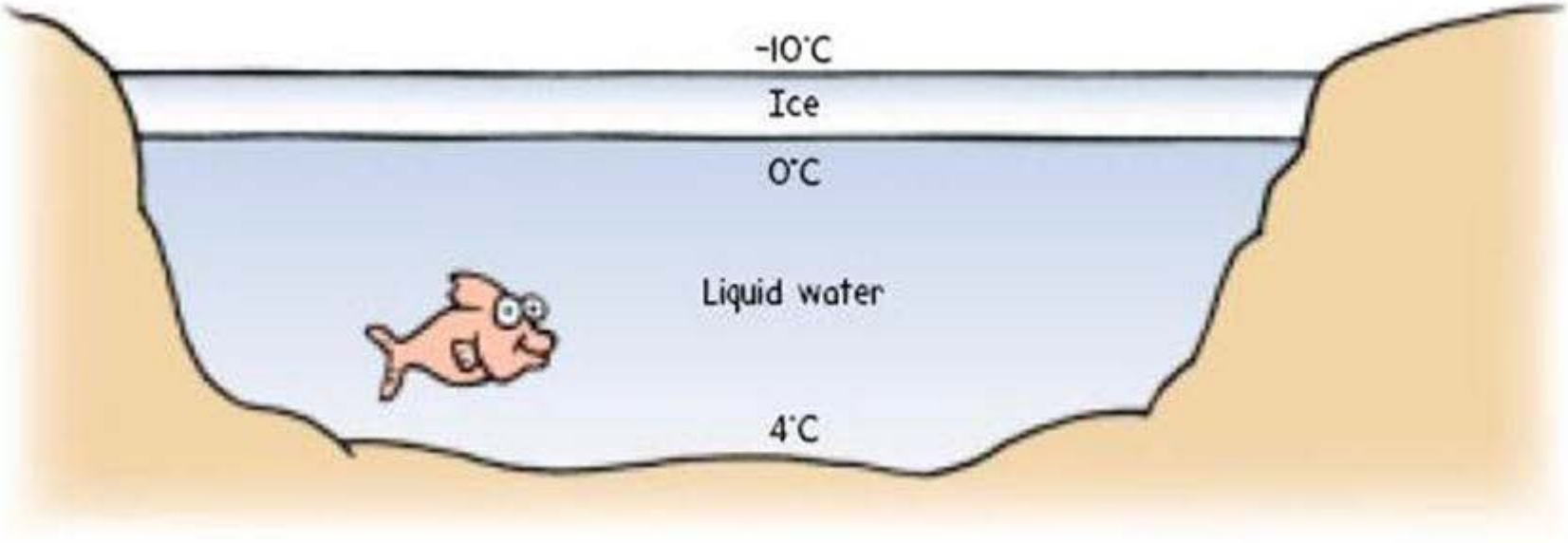


As the surface water continues to cool below 39 degrees Fahrenheit, something rather unusual happens…


NH LAKES
…the water molecules at the surface expand and crystallize into interlocking lattice-like patterns forming ice!

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



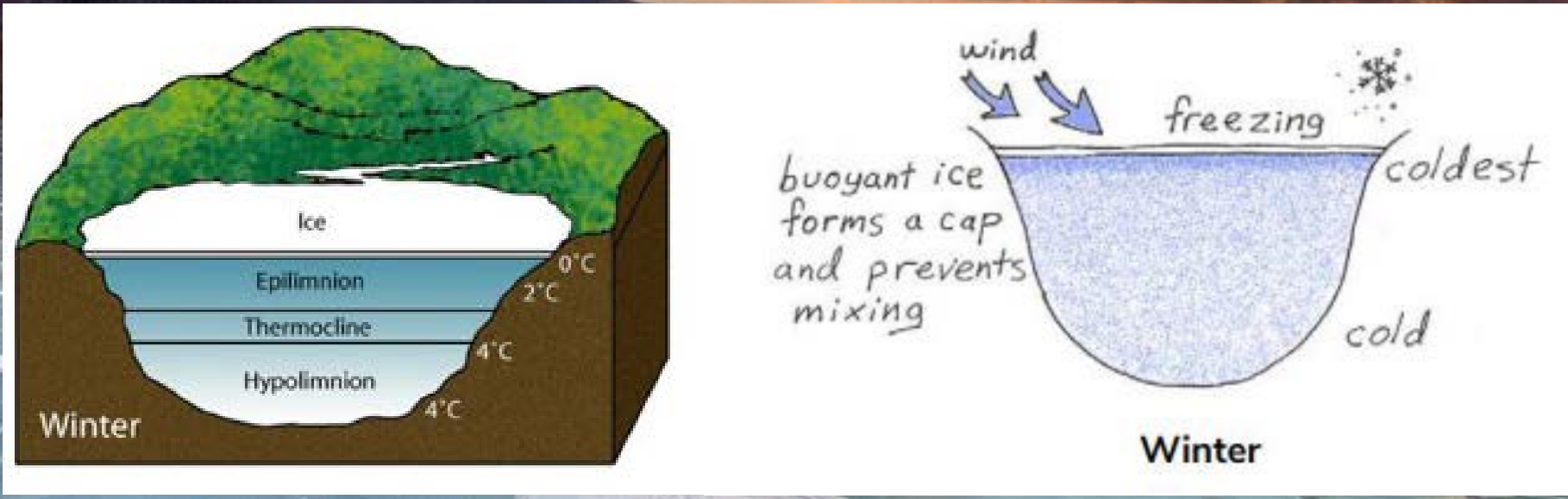


This is why lakes don’t freeze from the bottom up!

Our lakes in New Hampshire are unique!

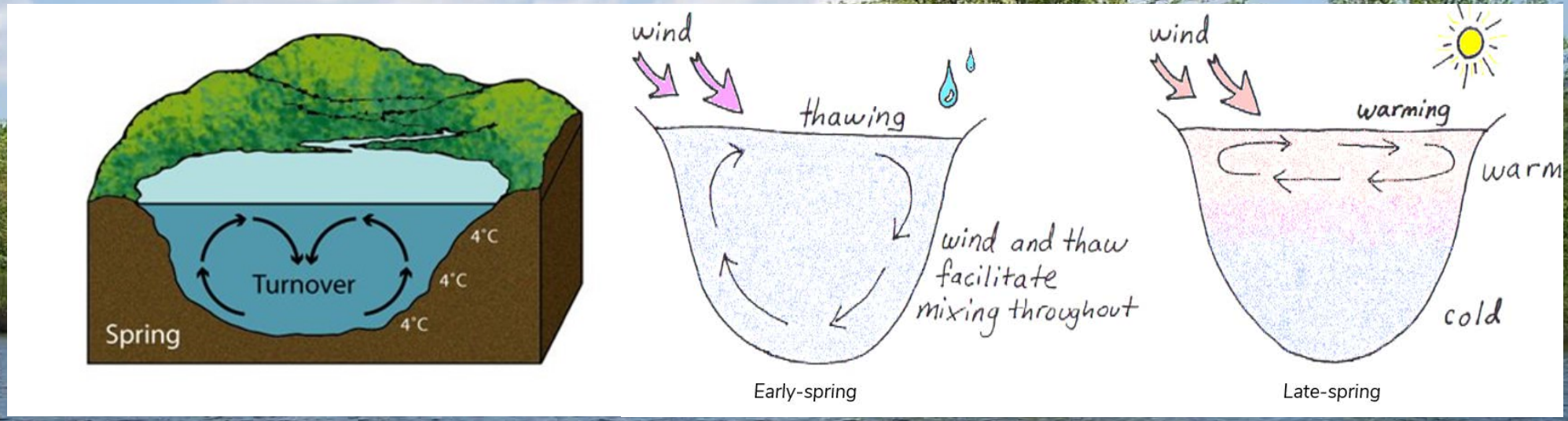
Not all lakes in the US freeze!

During winter, our lakes are sealed off from the atmosphere.



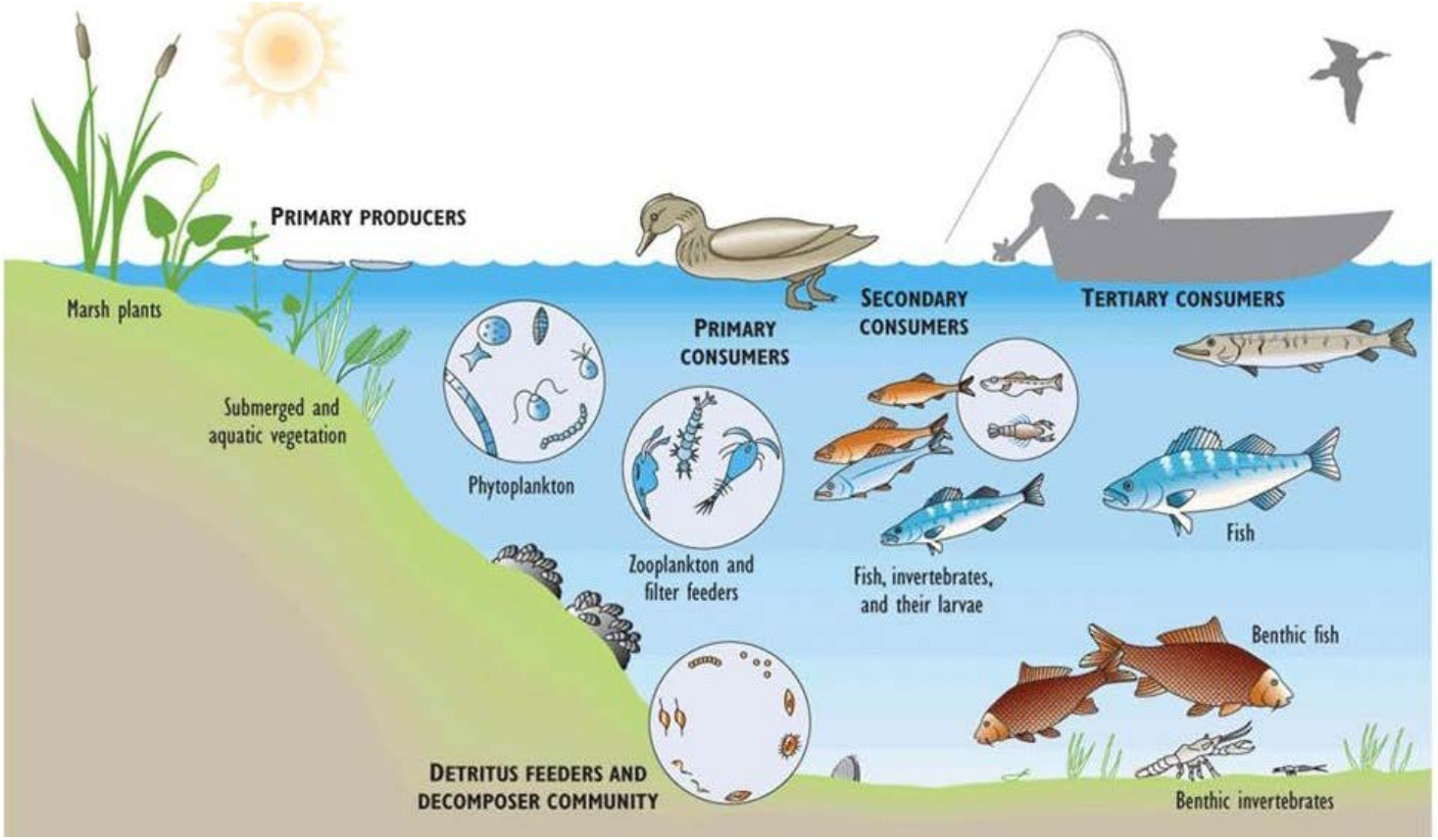
The oxygen in the lake decreases as aquatic animals use it and dead organic material decays and is decomposed.

Lakes in Spring



Lakes are rejuvenated as oxygen and nutrients are mixed in. The water begins to warm up, setting the stage for summer.

Lakes support a variety of plants, animals, and other organisms that rely on each other.



The Ecology & Management of Plants in NH's Lakes

Tune in to the webinar on Wednesday, August 26, presented by Amy Smagula, NH Dept. of Environmental Services.

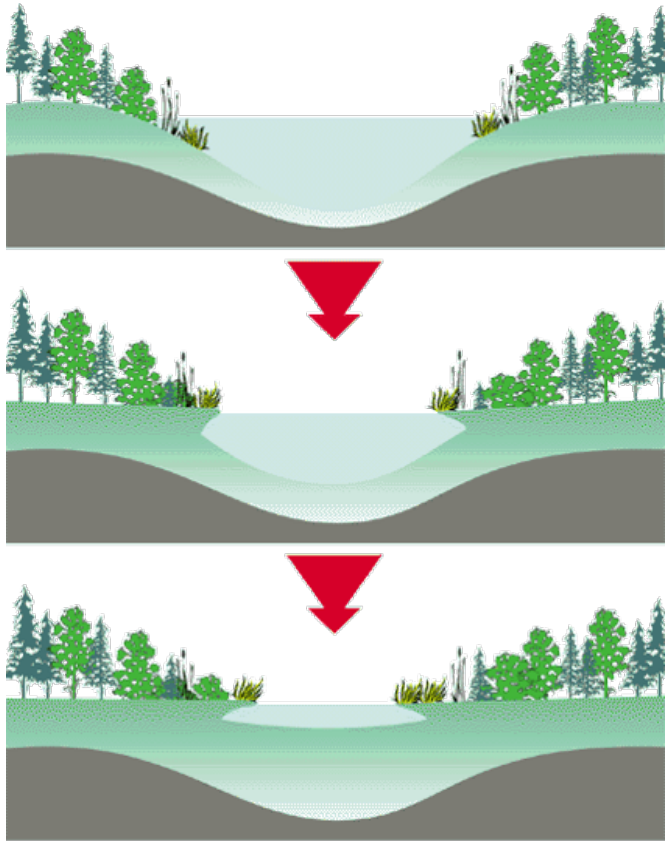
The Ecology & Management of Fish in NH's Lakes

Tune in to the webinar on Wednesday, September 2, presented by Scott Decker, NH Fish & Game Department.

Did you know?!

Lakes, like people, age over time!

They naturally fill in with decayed plants, algae, sediment.

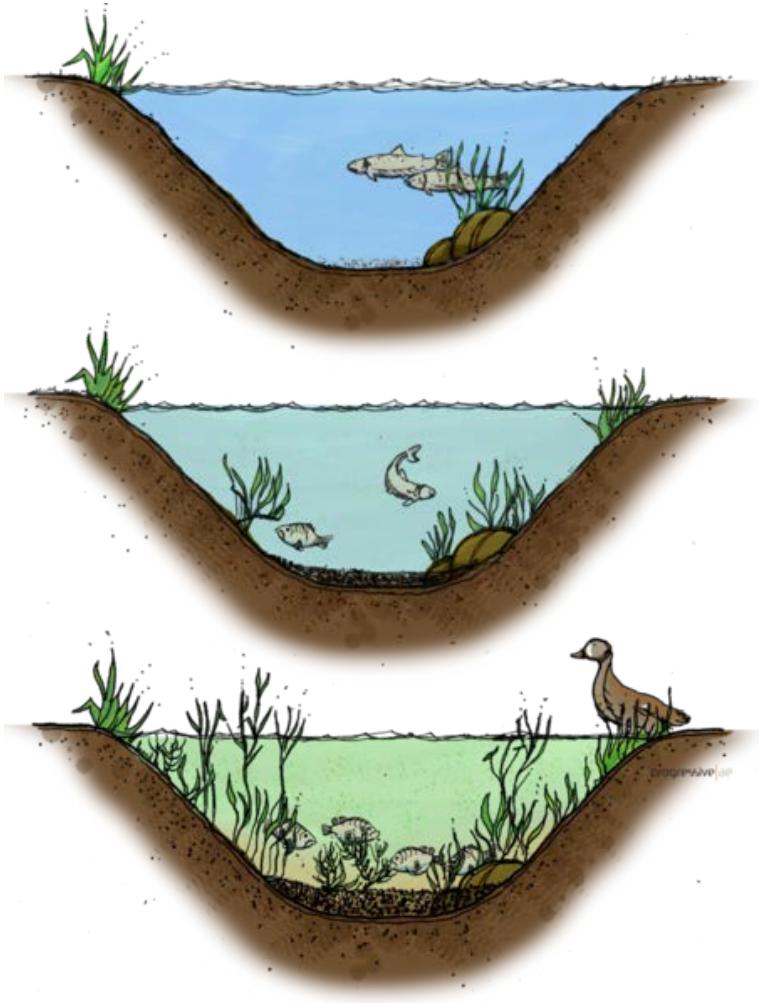


But, human activities speed up the lake-aging process (and bring in pollutants, too).

As the landscape (the ‘watershed’) is developed…

Pollutants from our activities make their way through runoff water into streams, rivers, and groundwater, and eventually into our lakes, causing our lakes to age.

Stages of Lake Aging



Oligotrophic (young)

- Steep shoreline, Low nutrients, few plants, little algae growth
- Sand or rocks along most of shoreline
- Coldwater fishery and high dissolved oxygen

Mesotrophic (middle-aged)

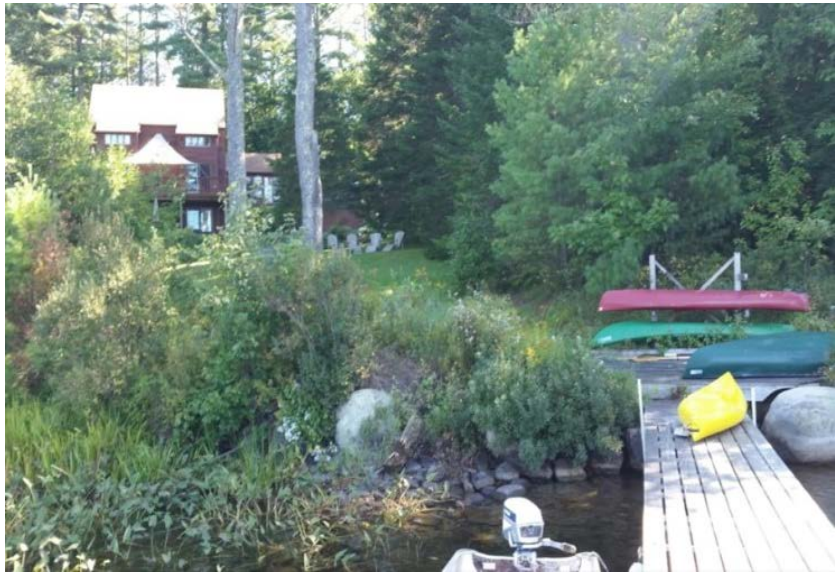
- Moderate nutrient enrichment and moderate plant and algae growth
- Some accumulation of sediment over most of the lake bottom
- Usually supports a warm water fishery

Eutrophic (old-aged)

- High nutrient enrichment and much plant and algae growth
- Much sediment on lake bottom
- Low dissolved oxygen near lake bottom
- Only supports a warm water fishery

YOU can help keep our lakes healthy & slow down the aging process!

Become LakeSmart by living in a lake-friendly way!



Minimize runoff water and pollution your property
and your activities contribute to the lake year-round.
Take the online self-assessment: nhlakes.org/lake-smart

Some mysterious sightings in our lakes over the years…

“Help, someone dumped yellow paint into the lake!”

No worries, it’s just pine pollen!
(usually late-May to early-June)

“Someone’s washing machine is draining into the lake–there’s soap bubbles in the water!”

Thankfully, this is probably not the case.

Do this Test: Collect some lake foam in a jar. Shake the jar.

Detergents will produce more bubbles. Natural foam usually dissipates.
Detergent foam is usually blueish-pinkish in color and smells like perfume.
Natural foams are whitish-brown and may smell like fish or soil.

“I found an alien brain!”

Good news, it’s a bryozoan, and likely indicates good water quality!

They live in colonies forming firm, gelatinous masses, attaching to submerged logs, twigs, stones, and docks.
They are filter feeders, eating microscopic organisms and are eaten by larger aquatic predators.

“The lake looks like someone dumped blue-green paint into it”

This is likely a cyanobacteria bloom which may be toxic to human and pets.
Do not go in the water and keep pets and livestock out.
Report suspected blooms to the NH Dept. of Environmental Services.

“What’s this yellow-green cotton candy stuff floating around?”

It’s filamentous green algae, and is common during late-summer.
It’s native and not toxic, but indicates elevated nutrients in the water.
Do the stick test—if it comes out as strands, it’s not likely cyanobacteria.

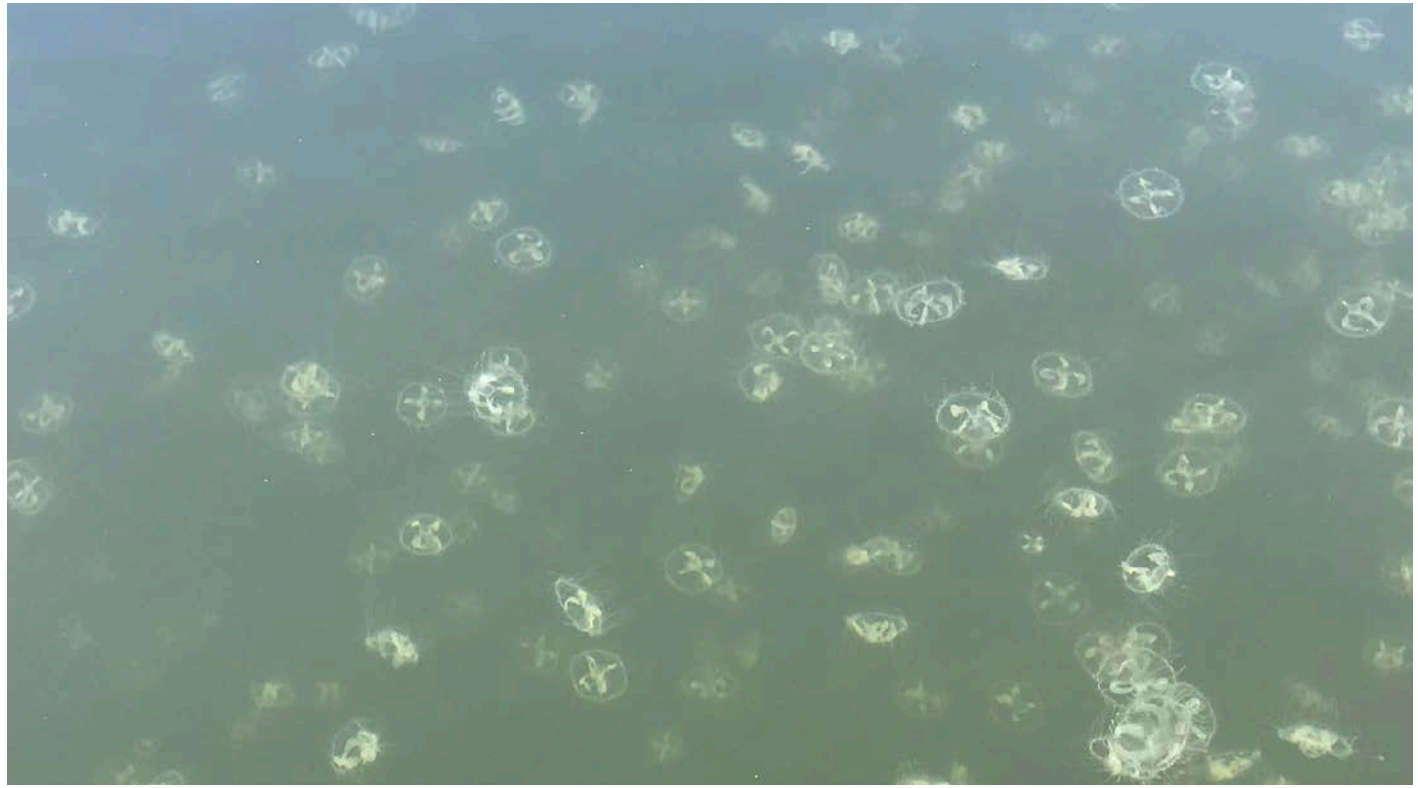
“Is this an oil spill?”

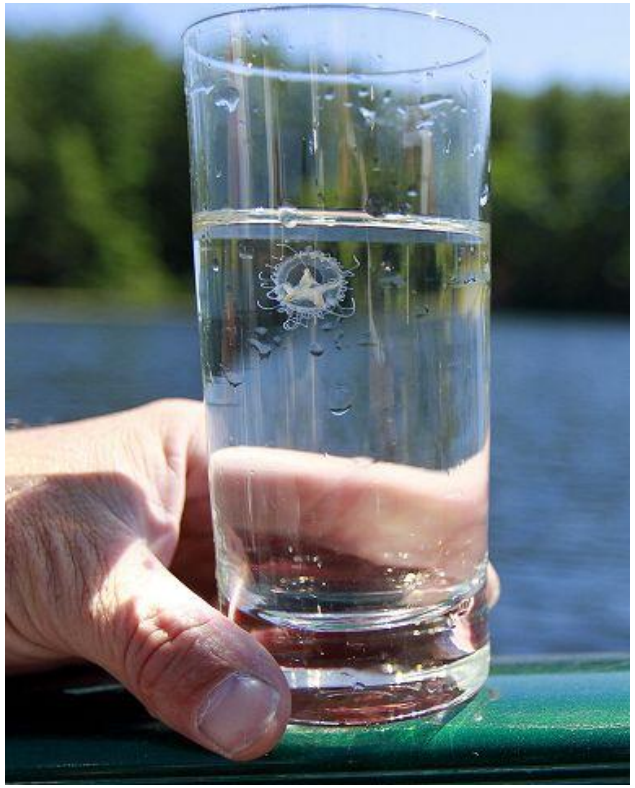
This is mostly likely natural and not a petroleum product.

Try the Poke Test.

Break the oily surface with your finger or stick.
If the sheen breaks apart and doesn’t come back together, it’s likely natural.
If the sheen moves back together again, it’s likely petroleum-based.
Report potential petroleum spills to the NH Dept. of Environmental Services.

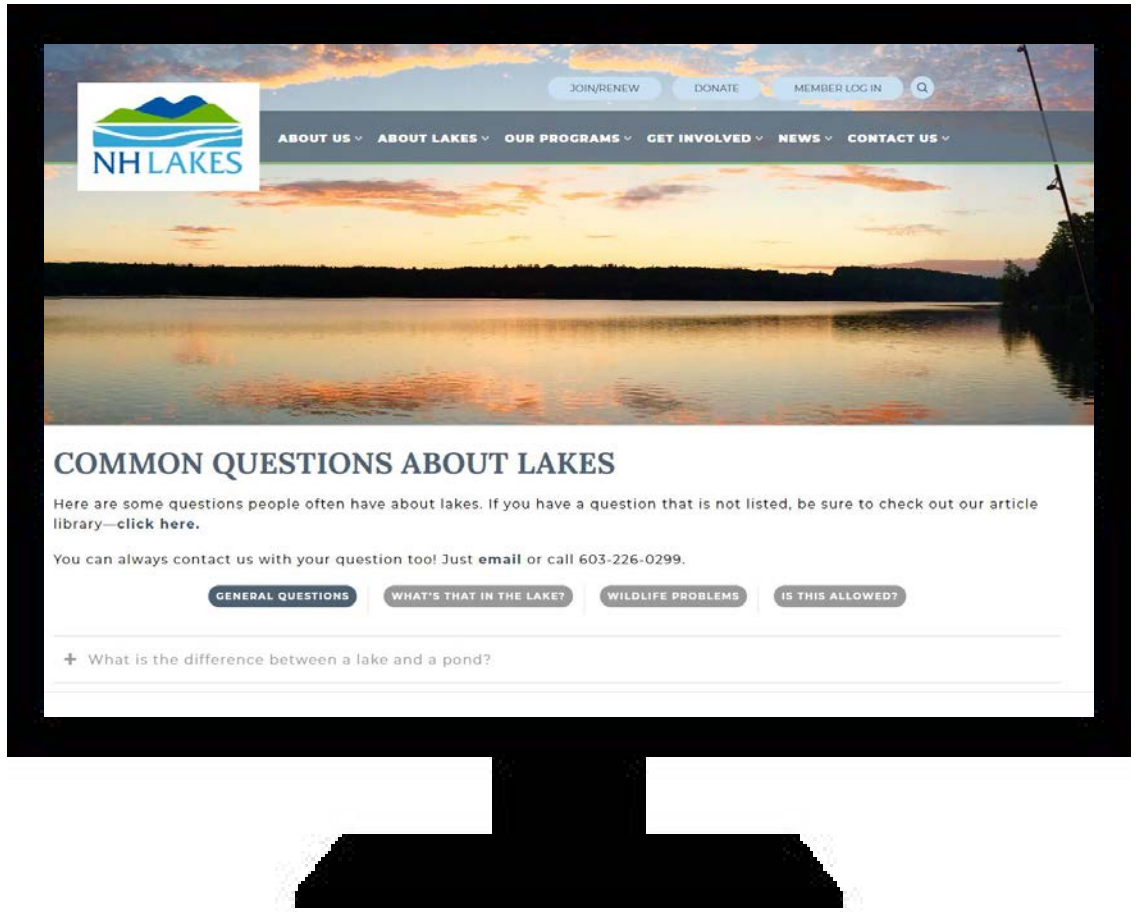
“Jellyfish—in a lake?!”





Yes, but don’t worry, they don’t sting!

Find out more!



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