

A photograph showing a group of six municipal workers standing in front of a large black salt spreader truck. The truck is labeled "HYDE PARK HIGHWAY DEPT." and "Viking". The workers are dressed in winter work clothes, including jackets and hats. The background shows a large pile of salt and several other vehicles, suggesting a winter maintenance facility.

# Winter Road Maintenance Strategies for Municipalities

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Central Vermont Regional Planning Commission (CVRPC), UVM Extension, Lake Champlain Sea Grant, and the Vermont Agency of Transportation

January 8, 2026

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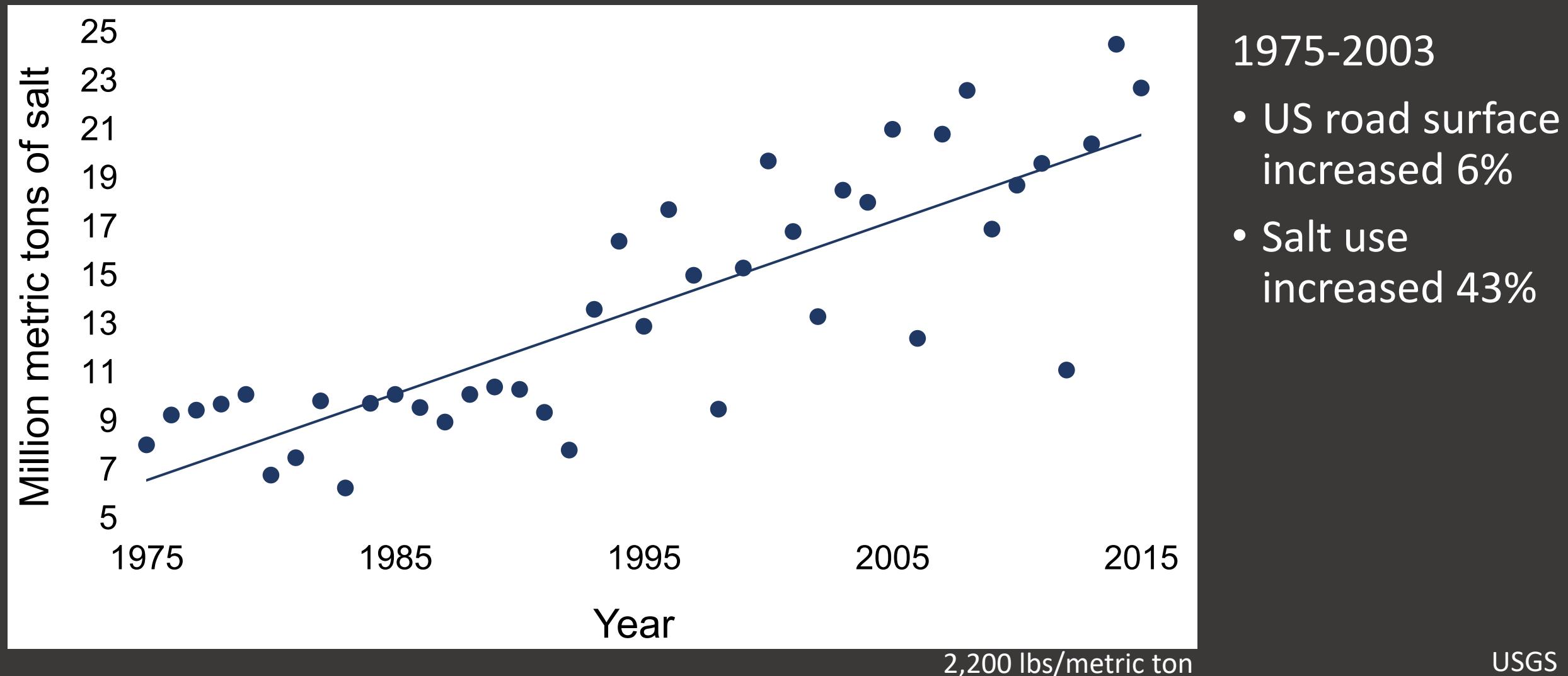


Salt was first  
used on roads  
in 1941

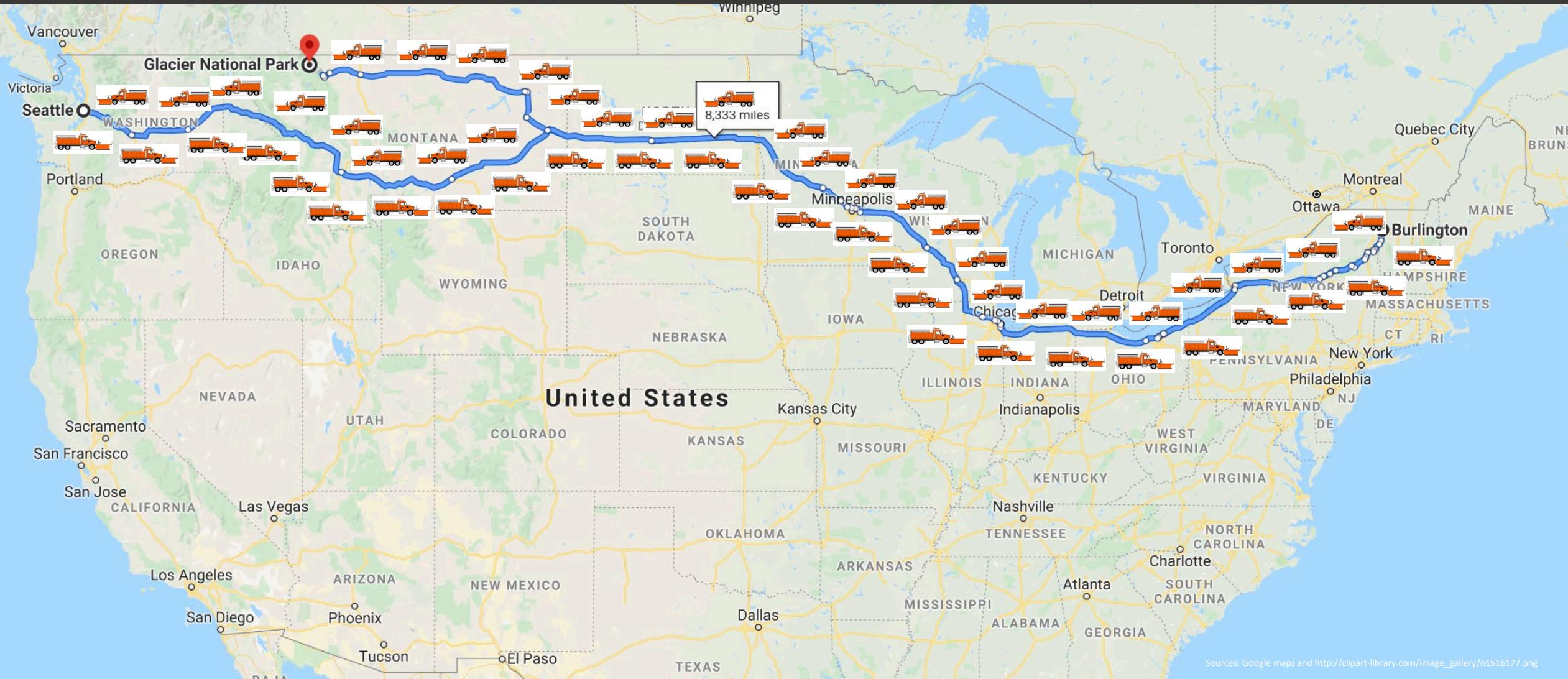


5,000 tons of salt used  
on roads that year

# Road salt use in the United States has increased over time



More than 25 million tons of salt are spread each year in the U.S.





Road salt can kill  
fish in streams

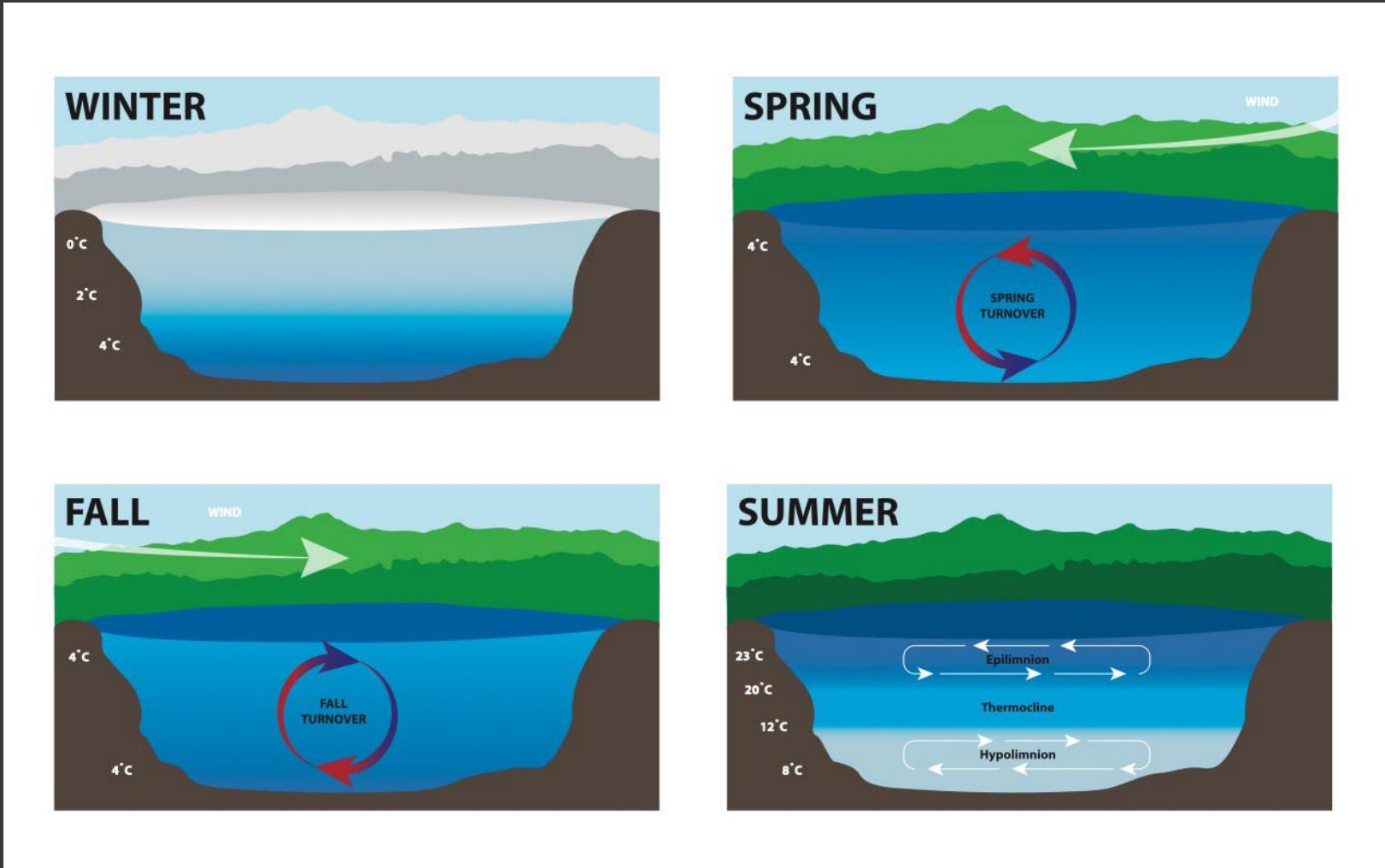




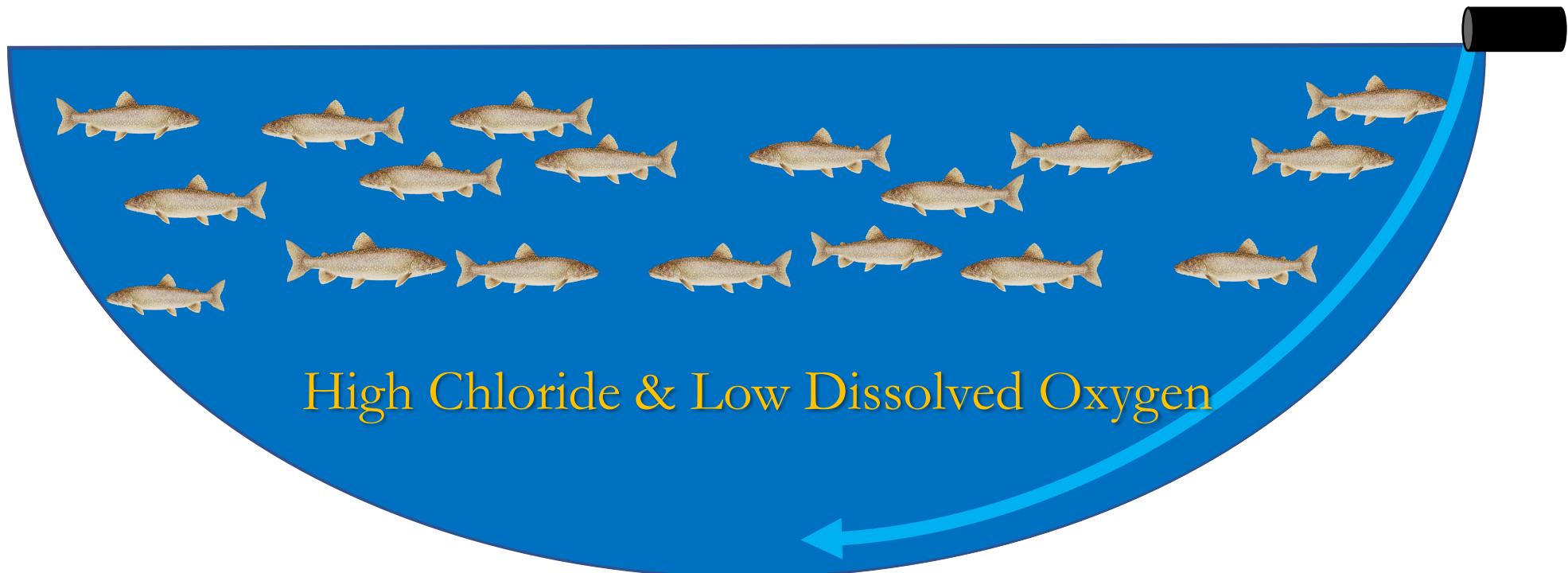
Road salt can kill  
fish in streams



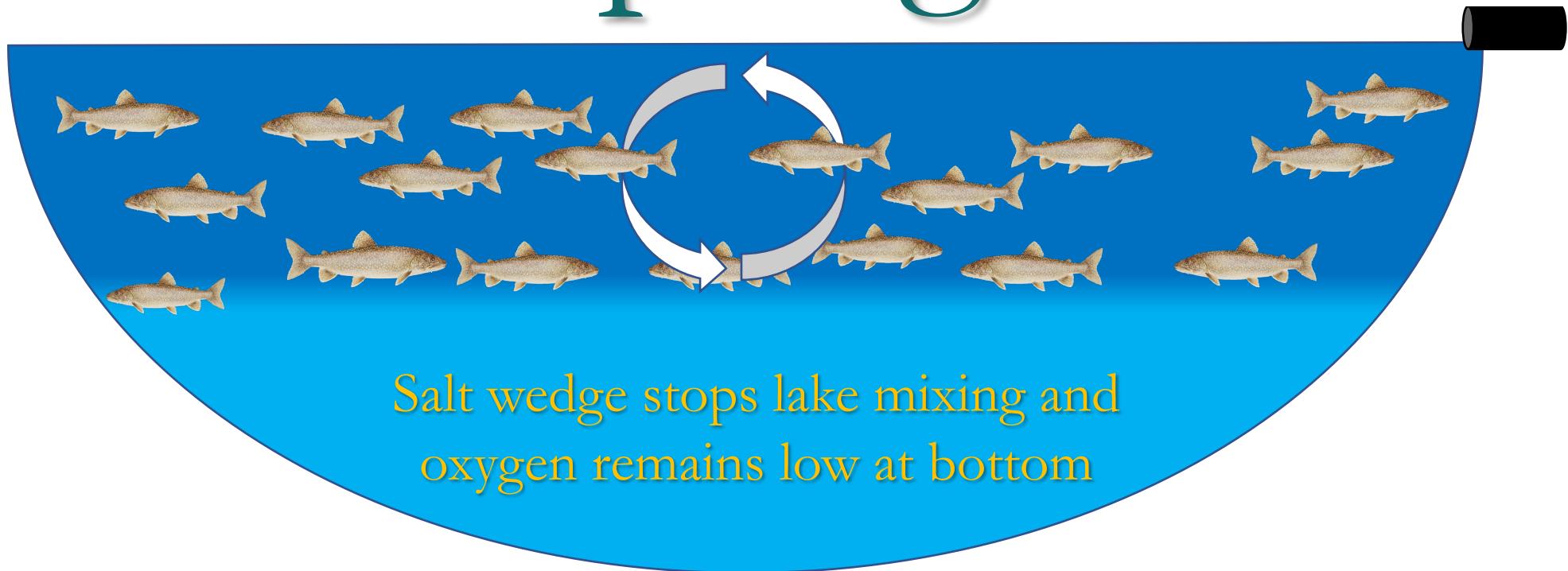
Once in lakes road salt can affect natural lake cycles and available habitat



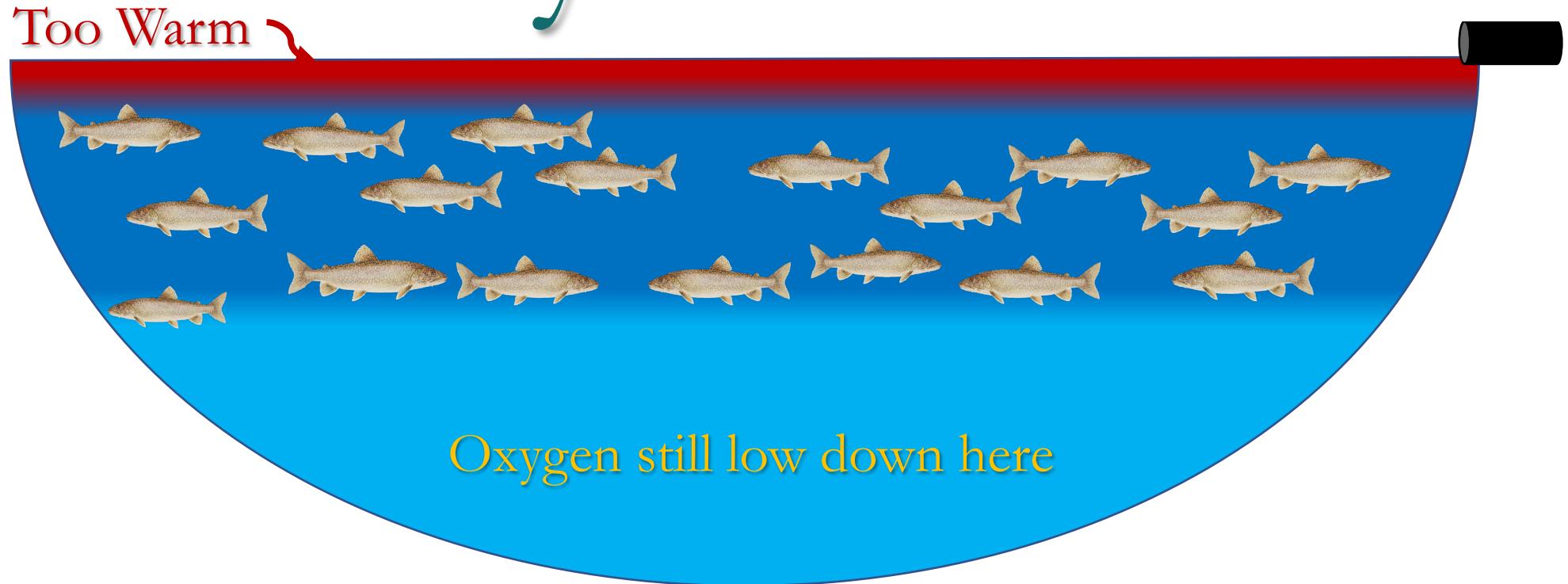
# Winter



# Spring

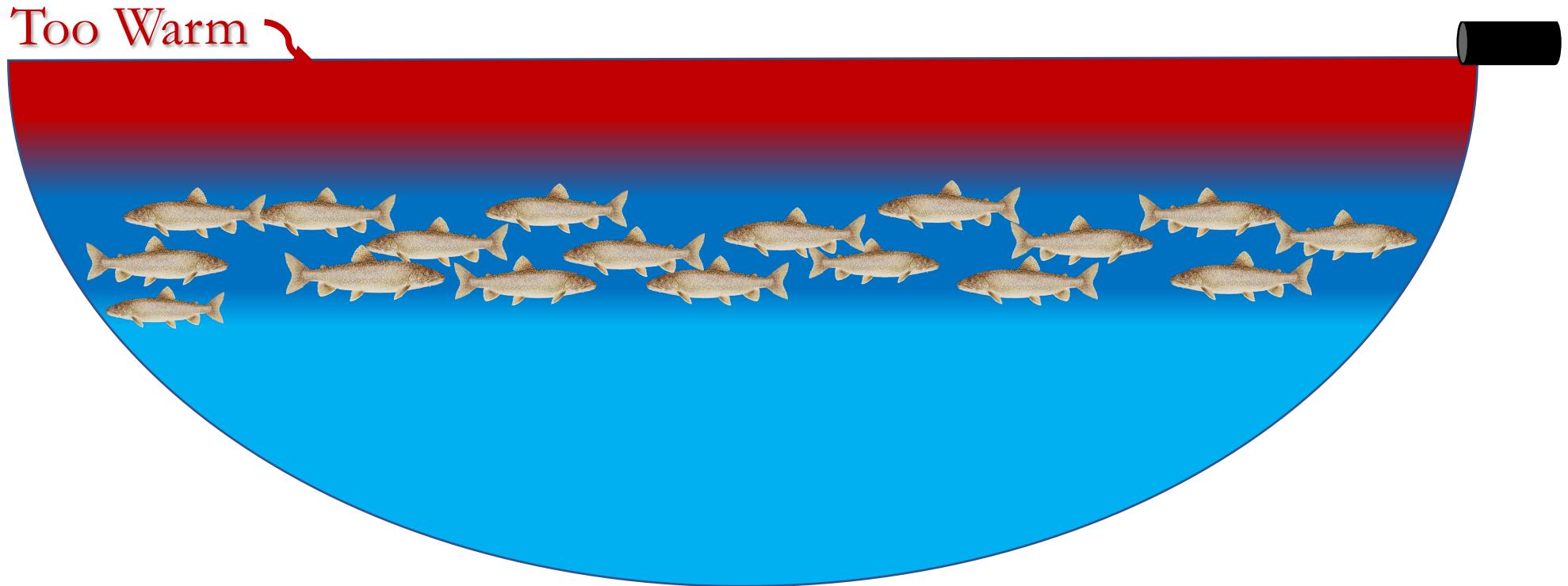


# Early Summer



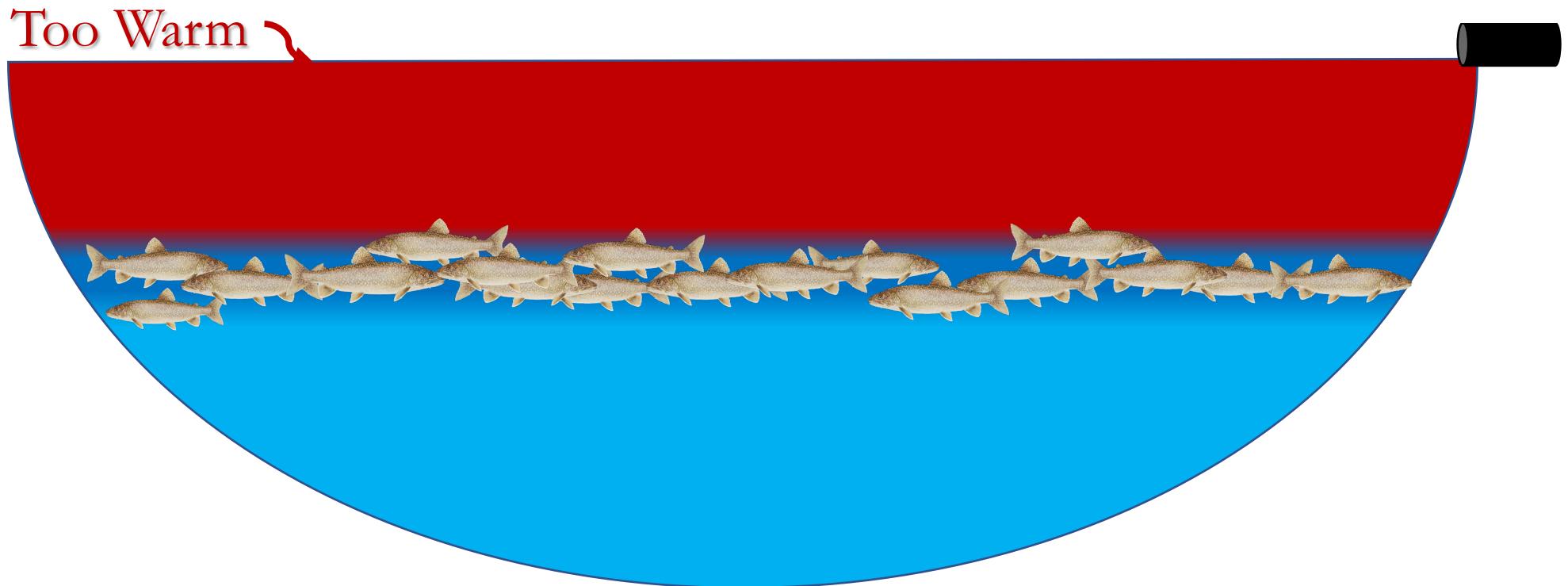
Oxygen levels drop at the surface and fish have less space to live.

# Mid Summer



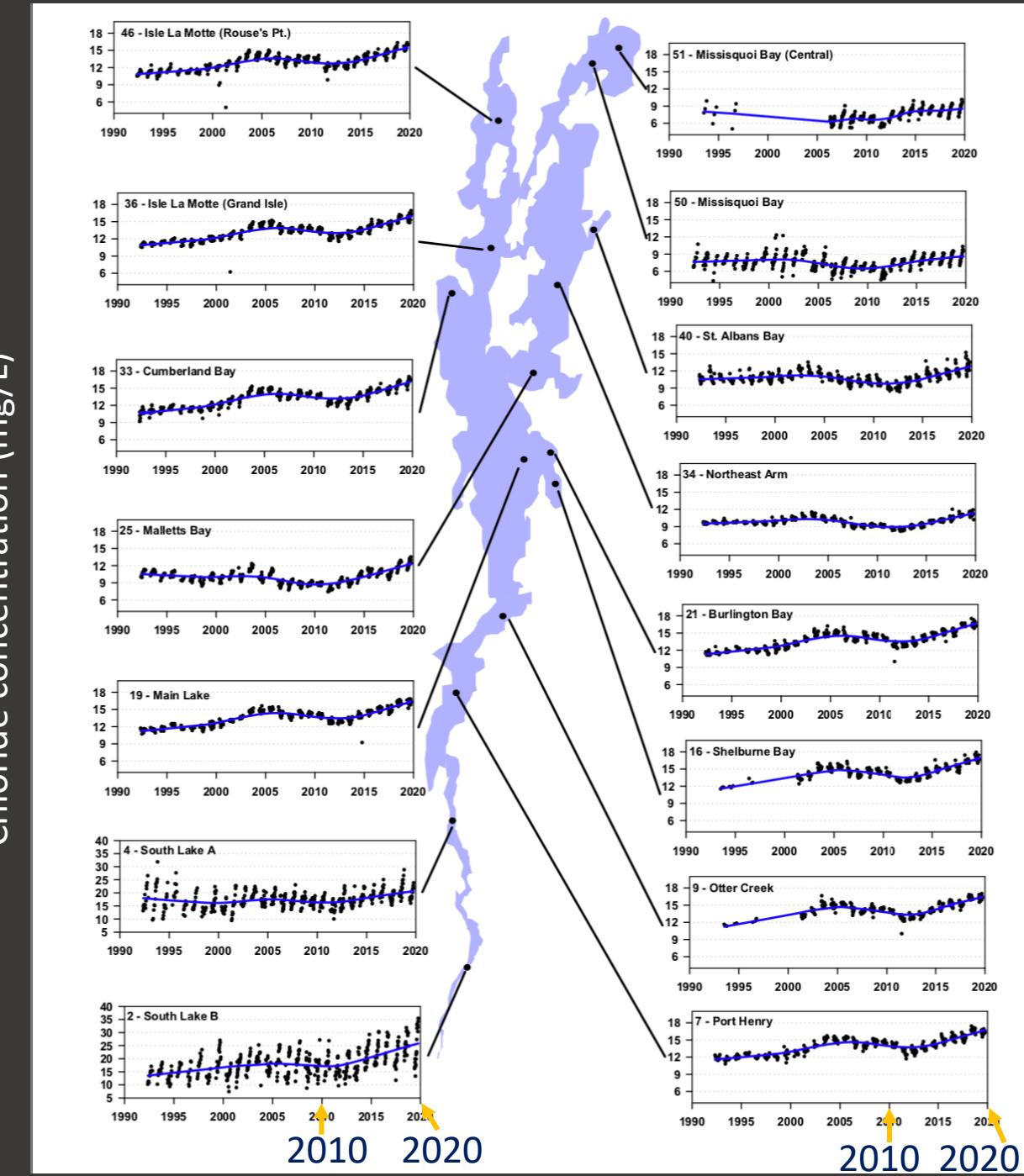
And fish are squeezed into a small area with enough oxygen

# Late Summer



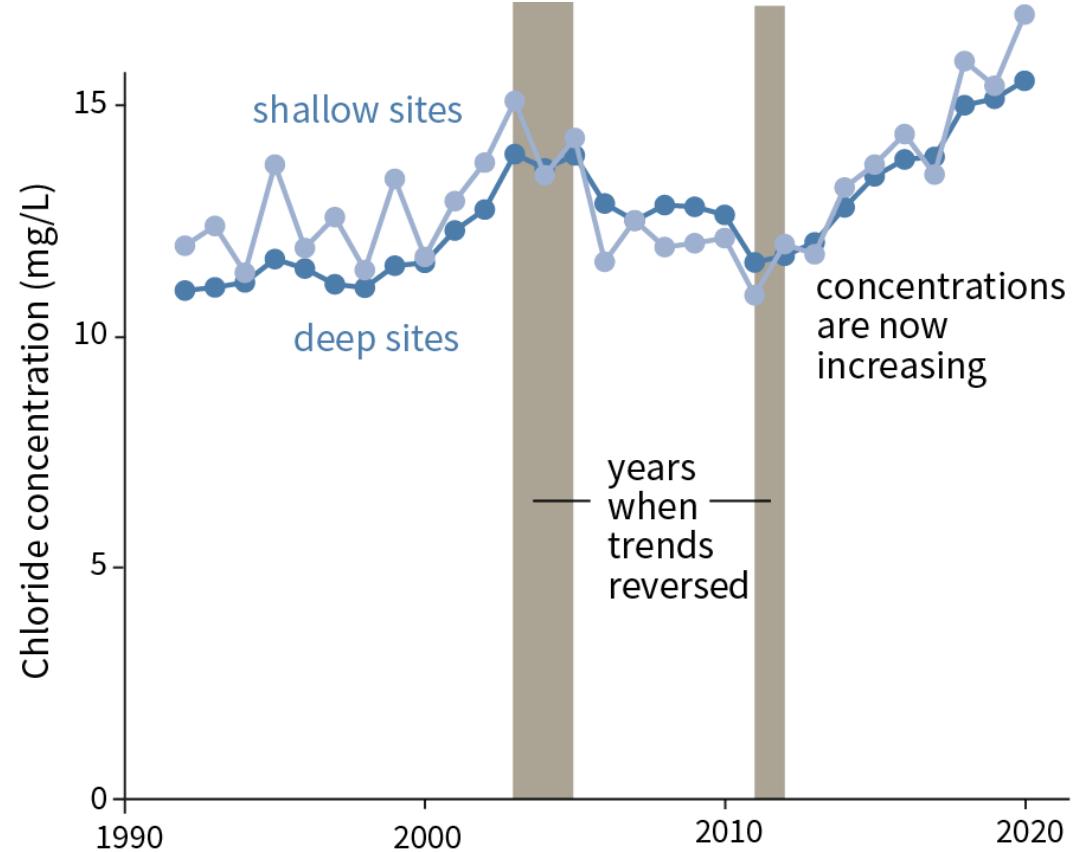
Fish have very little space with enough oxygen by late summer.

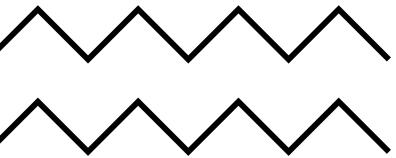
The rivers and streams that empty to Lake Champlain are getting saltier.



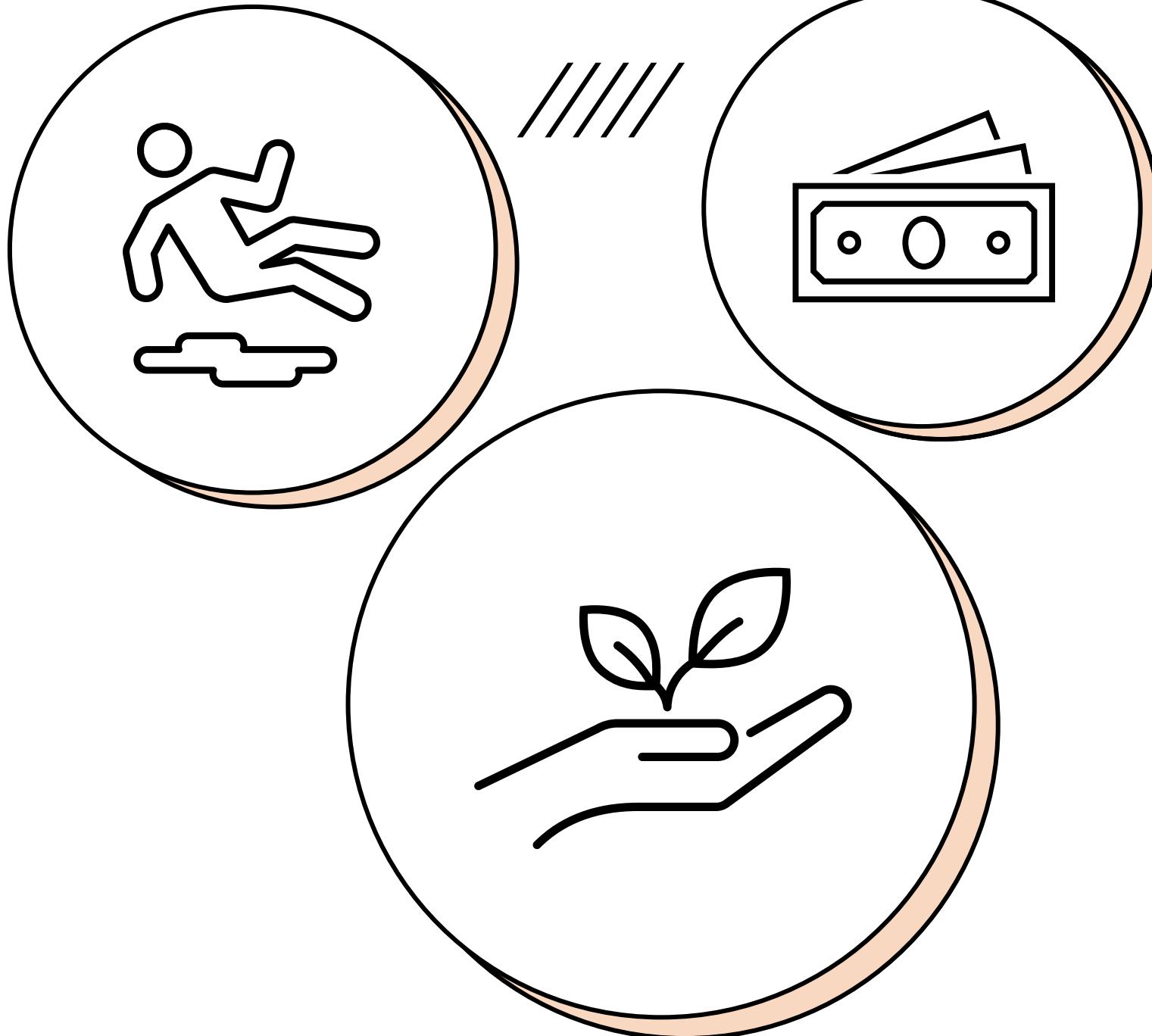
Source: Lake Champlain Basin Program

Lake  
Champlain's  
chloride  
levels are  
increasing





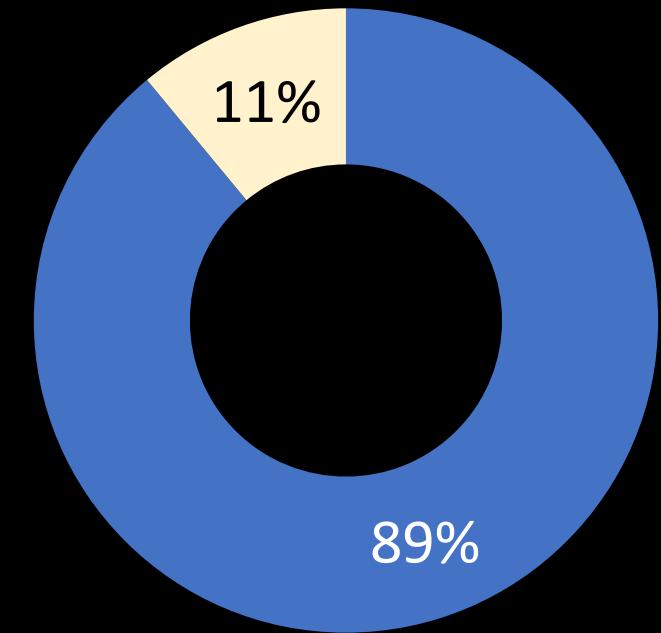
Sustainable salting  
practices can  
reduce use of salt,  
save communities  
money, AND keep  
people safe





## Calibrate equipment

Chittenden County Communities

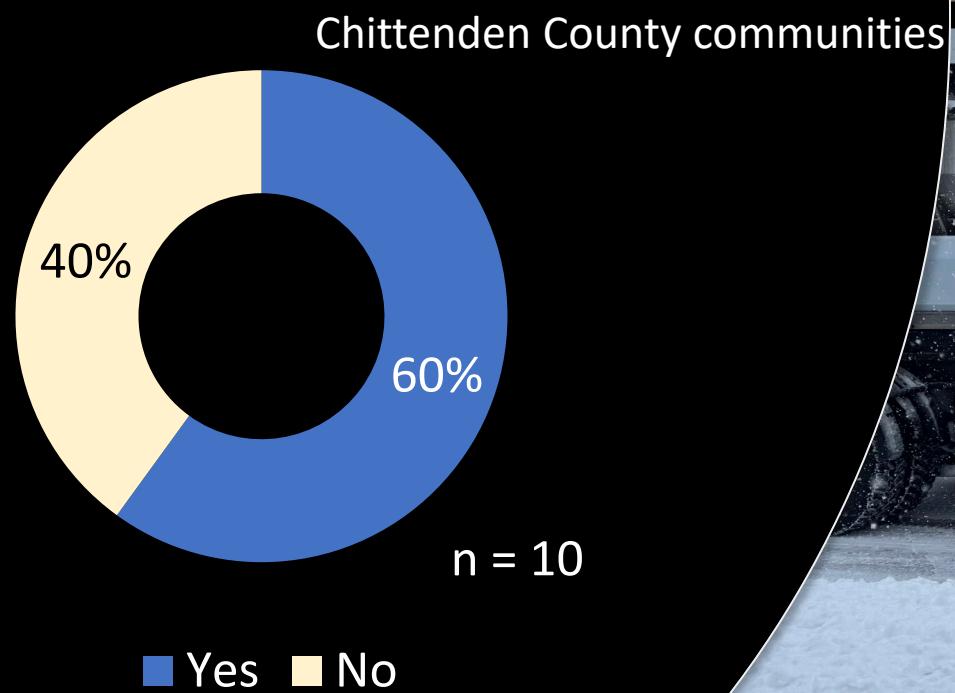


n = 9

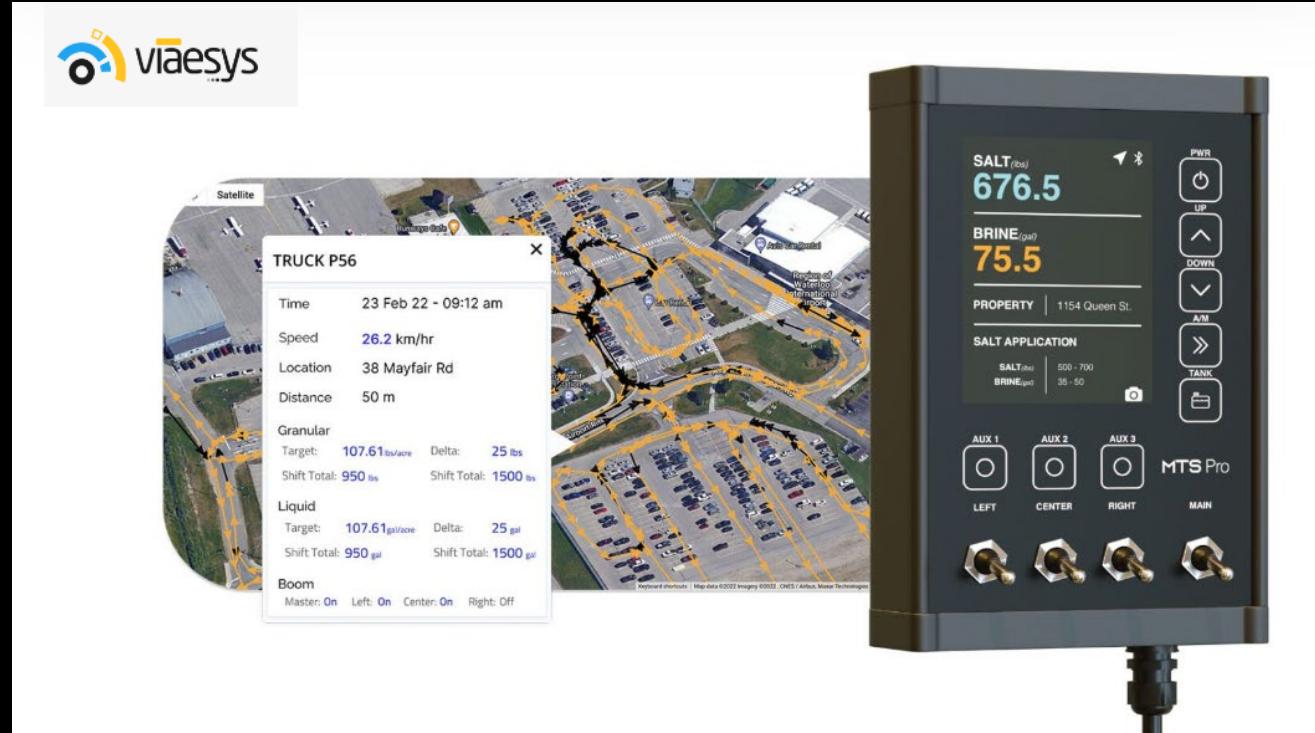
[go.uvm.edu/salttools](http://go.uvm.edu/salttools)

# Use alternative plow blades

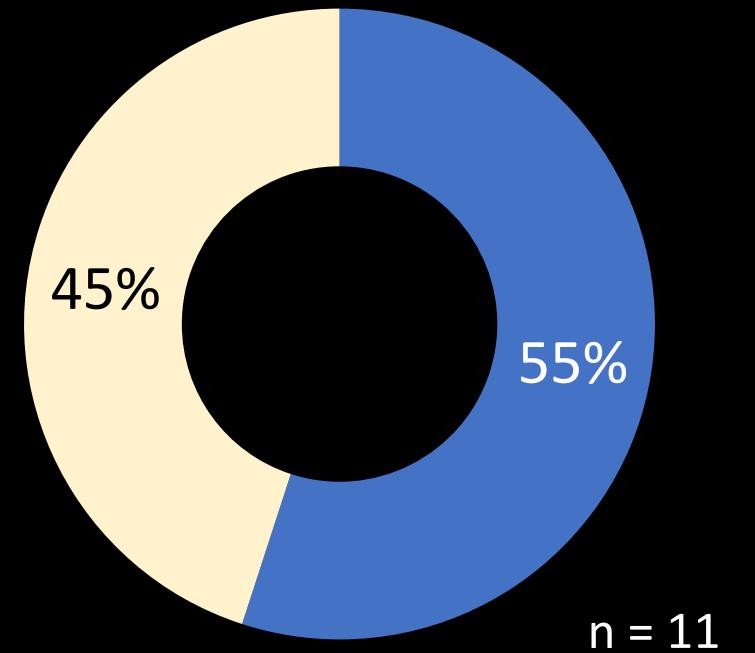
- Segmented blades
- Secondary blades



Track salt use (e.g., by location, vehicle)



Chittenden County communities

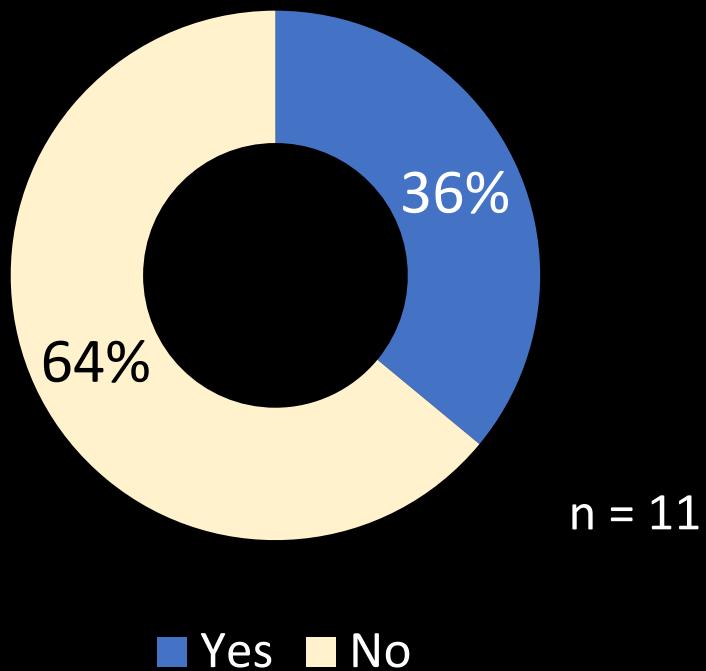


■ Yes ■ No

Image source: Viasys

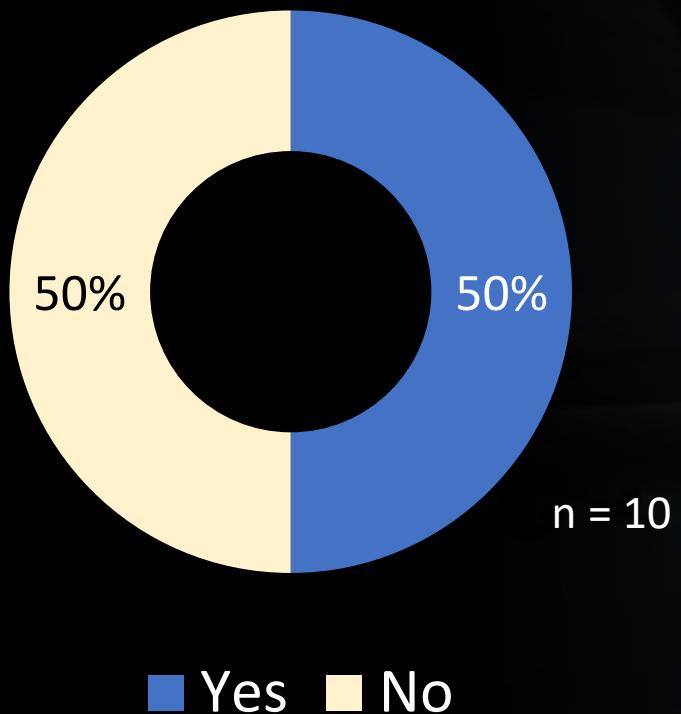
## Pre-wet salt with brine at the spinner

Chittenden County communities



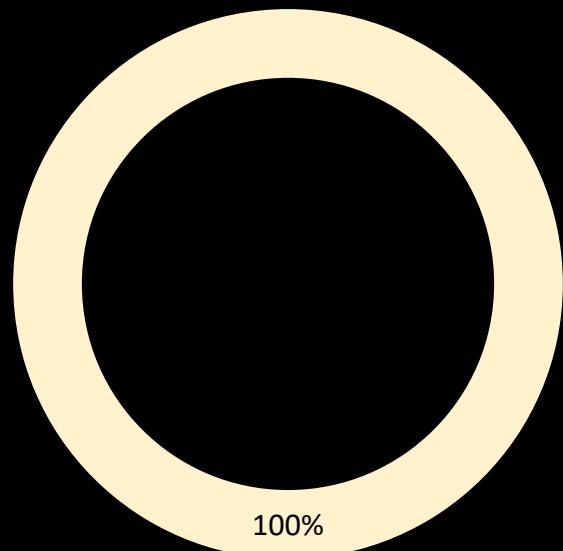
# Measure pavement temperatures

Chittenden County communities



# Use a Road Weather Information Station (RWIS)

Chittenden County communities



■ Yes ■ No

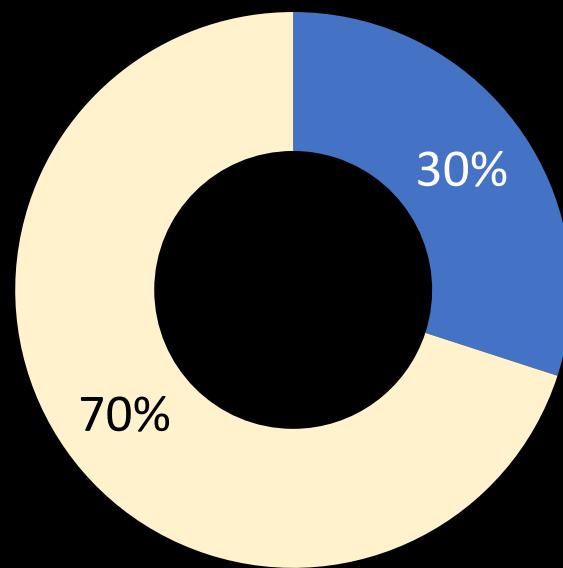




## Anti-icing

- Treating ahead of a storm to prevent bond between ice and pavement

Chittenden County communities

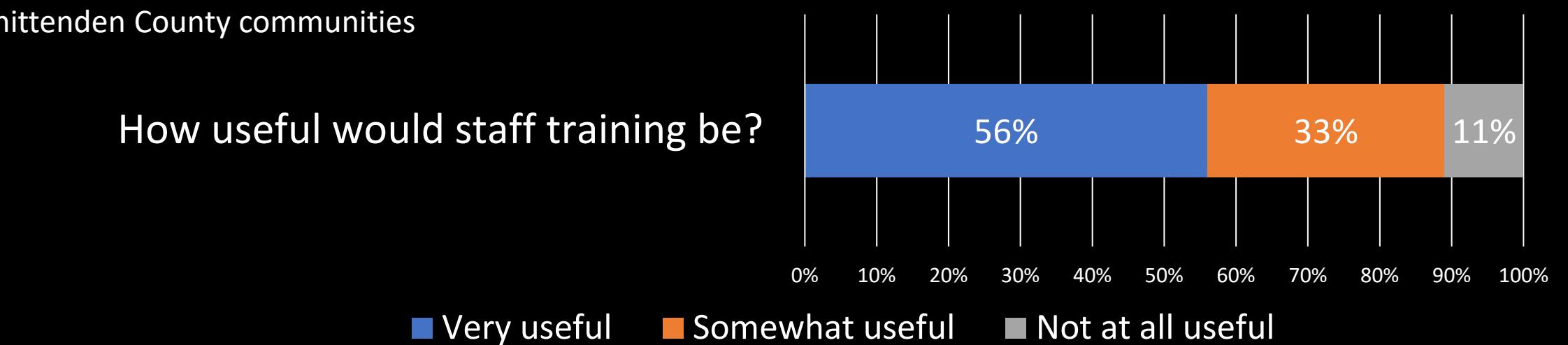


■ Yes ■ No

# Train staff in use of sustainable salting practices

Chittenden County communities

How useful would staff training be?



Use of a combination of sustainable practices can reduce salt use by 40% or more

A snowplow truck is shown from a side-front angle, clearing a snow-covered street. The truck is dark-colored with orange safety markings on the front. It is spraying a fine mist of salt onto the road. The background shows a residential area with houses and trees, all covered in snow. The sky is overcast and grey.

To learn more and for resources, visit: <https://go.uvm.edu/chittendenco>