

# SLPID

## 2020 WINTER NEWSLETTER



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# Warmer Winters Mean More AQUATIC INVASIVE SPECIES



ZEBRA MUSSEL



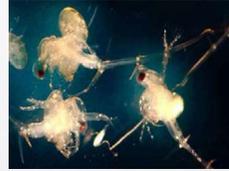
WATER CHESTNUT



CURLY-LEAF PONDWEED



EURASIAN  
WATERMILFOIL



SPINY WATERFLEA

Aquatic invasive species are a problem on Saratoga Lake. Invasive plants are those which are not native to the area. They often do not have any natural predators and therefore outcompete native species. This can lead to habitat degradation and loss of wildlife. Aquatic invasive species are also inconvenient and costly to humans. Along with loss of recreational opportunity and income, aquatic invasive species can damage drinking water availability and infrastructure. For example, zebra mussels, an aquatic invasive found in Saratoga Lake, can grow on infrastructure systems such as water intake pipes, irrigation pipes and power plants. Zebra mussels also accumulate toxins in their tissues which are passed along the food chain to people who fish off the lake. Thus, aquatic invasive species pose health concerns for both people and the wildlife ecosystem.

In the United States, an estimated \$120 billion annually is put into efforts to control and mitigate damage of invasive species. Unfortunately, as the climate warms, this number is expected to increase as aquatic invasive species become more prevalent and wreak more havoc. Many aquatic invasive species cannot survive cold winters. Thus, the ecosystem regulates invasive populations via a natural change in temperature. However, due to anthropogenic climate change, lakes in upstate New York are not getting as cold as they used to during the winter. This is problematic across the state. Large lakes in New York such as Lake George and Lake Champlain are freezing over less frequently. This not only means a longer life span for existing invaders, but warmer winters mean new invasive species will tend to migrate northward. To manage aquatic invasive species, a comprehensive strategy needs to be expanded to a trend towards milder winters.



# Safe Roads DIRTY LAKE



Roads have been **SALTED** since the early 1900's to reduce wintertime accidents.

Road salt is needed to maintain safe roads at the vehicle speeds that we are accustomed to using. Road salt is like a coarse table salt and works to prevent accidents by lowering the temperature at which water turns to ice. It is such a cheap and effective way to make roads safer that almost 20 million tons of salt is scattered on roads annually in the United States. This equates to about 123 pounds of salt per every American. Conventional rotary salt spreading equipment has been shown to waste up to 30% of the salt.

## Although salt effectively improves road conditions in the winter **IT CAN HAVE A SERIOUS NEGATIVE EFFECT ON WILDLIFE.**

Aquatic ecosystems are particularly at risk. Salt dissolves quickly on roads resulting in a flow of chloride to nearby lakes, rivers and streams. At high levels, this runoff is dangerous. Chloride can be toxic to plankton and fish and affects the way water mixes with oxygen resulting in dead zones at the bottom of lakes. Dead zones are oxygen-depleted areas where no life can be sustained due to anthropogenic nutrient runoff. Not only does excess salt runoff lead to aquatic fatalities, it can change the species composition of a waterbody. Research shows that lakes with high salt runoff have more salt-tolerant zooplankton than they did before road salt was used. Small ecological changes like this can affect an entire food-web; thus, it is important to consider how human actions affect wildlife.

## Due to increasing development in Saratoga, NY **SARATOGA LAKE IS AT RISK OF SALT DAMAGE.**

The Saratoga Lake watershed contains some of the fastest growing regions in Saratoga County and only about 2% of the forested land in the lake's watershed is protected by conservation efforts. Chloride impacts roadside vegetation at 70 ppm, salt spray damages white pine, hemlocks, sugar maple, white birch trees. To make matters worse, some of the most pervasive terrestrial invasive species such as phragmites and purple loosestrife, are salt tolerant.

Forested land that is not protected may be developed in the future posing risks to the long-term health of the lake. Thus, to maintain the integrity of the lake, development must be properly managed.

## The effects of increasing use of road salt have been **WIDELY DOCUMENTED IN THE UNITED STATES.**

Research shows that 37% of drainage areas in the United States have experienced an increase in salinity since the 1960's. Road salt has been linked

as the cause. Furthermore, a study done on urban streams in the United States shows that 40% of urban streams have chloride levels that exceed EPA safe guidelines for aquatic life. High loading of chloride occurs during winter melt conditions and in the spring. This is important since the upper Kayaderosseras Creek has both a native and stocked trout fishery. Trout exhibit stress responses to salt when concentrations are above 250 ppm.

## Road salt can also **NEGATIVELY AFFECT PEOPLE.**

It is corrosive to infrastructure resulting in damages of up to \$5 billion a year in the United States. Moreover, a study done on 125 wells in New York shows that almost half of the wells have salt concentrations that exceed EPA guidelines and 20% have concentrations high enough to harm residents with high blood pressure. This problem will only get worse as more areas are developed. Research shows that paving as little as 1% of land area within 500 meters of a lake increases the risk of a lake becoming saltier. Once salt enters the soil or a waterbody, there are few ecological processes to remove it; thus, it becomes a persistent danger.

## Some towns and cities in the United States are considering **ALTERNATIVES TO SALTING ROADS.**

Well calibrated modern salting equipment have been shown to reduce salt use by 40%. Beet water waste is one such alternative; however, many residents complain that this remedy emits a foul smell. Moreover, researchers are unsure whether beet wastewater has its own negative ecological effects. Scientists are also developing roads that clear themselves by replacing asphalt with solar panels. These solutions may allow roads to be kept safe without harming wildlife.

Research is indicating that different salting techniques can be used on roads with low volume of traffic to save salt. Reducing road salt is simple, government must invest in better salting and sanding equipment to deliver the correct amount of materials needed to remove ice. Also, better plow blades aid in lowering the need for salt since removing the snow prevents ice buildup.

# Taking Care of Saratoga Lake in the WINTER

## PROPERTY OWNERS IN THE SARATOGA LAKE WATERSHED

How can you improve and maintain the health of Saratoga Lake in the winter?

Property owners living within the Saratoga Lake Watershed have a direct impact on the health of Saratoga Lake. Because the Saratoga Lake Watershed is so large, it is important that all property owners within the watershed understand how their actions directly and indirectly influence the lake. Steps that protect the lake can also be beneficial to your home and your safety. Below are some suggestions and requirements for maintaining and improving Saratoga Lake quality in the winter.

## MINIMIZE RUNOFF OF ROAD SALT

**WHY:** In the winter, road salt is a major cause of nutrient runoff. Runoff of road salt into the lake causes dead zones. Dead zones are areas that are depleted of oxygen and cannot sustain life.

### DO:

- Leave a buffer of grass, hedges or native flowers between the lakefront and your lawn. This will reduce runoff into the lake.
- Reduce impermeable surfaces with natural walkways and permeable or gravel driveways and patios.

### DON'T:

- Plow snow from driveways and roadways onto lake ice or lake shore.
- Use excess salt on driveways and walkways.
- Build concrete patios and walkways along the shoreline.

## PROPERLY DISPOSE OF CHRISTMAS TREES

**WHY:** As trees dry out, they become more likely to be fire hazards. Christmas tree mulch can be used as an erosion barrier for lake shoreline management.

### DO:

- Recycle your Christmas tree. Clean the tree of all ornaments and cut the tree into 4 ft. portions. The Saratoga County Public Works Department organizes tree removals. Check their website to see where trees can be dropped off. Several towns within Saratoga County also collect trees from curbside.
- Repurpose your Christmas tree. Parts of your tree can be used as decoration, to build a birdhouse, to enhance a pond, to create coasters or to make mulch.

### DON'T:

- Recycle your tree by leaving it on the lake ice.
- Recycle by dumping or anchoring it to the lake bottom.
- Recycle a tree larger than 7 ft. without cutting it into smaller pieces.
- Recycle a tree without removing all ornaments.
- Leave a tree in your home to rot. It is a fire hazard and can make a mess.

## BE AWARE OF ECOLOGICAL CHANGES IN THE LAKE

**WHY:** Ecological changes occur in the winter as parts of the lake turn to ice. Cold temperatures slow the metabolism of aquatic life reducing rates of photosynthesis and respiration. Life is sustained however due to the properties of water molecules that make ice less dense than water. Thus, ice floats on the top of the lake. This allows aquatic organisms to remain alive below the ice.

### DO:

- Adhere to fishing regulations specific to ice fishing. On Saratoga Lake, there is a special restriction on Sunfish in the winter. They can be caught at any size and the daily limit is 15 fish.
- Beware of changing weather conditions.

## BE CAUTIOUS AROUND SNOWPLOWS

**WHY:** Snowplows are used to make roads safer. However, because snowplows are so large and because snowplow drivers often have low visibility, people should be cautious around them.

### DO:

- Place your garbage can in your driveway 4 inches from the white line. Garbage cans can become projectiles when a snowplow comes through.
- When you are driving, give the snowplow space and slow down. The driver may not be able to see your car. "Beeps" signal the truck is backing up.

### DON'T:

- Allow kids to play or build tunnels next to the road.
- Crowd the plow while driving.
- Pass the plow on the right. Plows push snow to the right shoulder, and many are equipped with a wing plow a 6-8 foot extension on the right-hand side of the plow.

# Saratoga Lake ICE FISHING



Saratoga Lake has been named one of New York's **TOP 10** ice fishing lakes.

Here, fishermen can find Walleye, Northern Pike, Yellow Perch, Bluegill, Rock Bass, Pumpkinseed, Carp and Chain Pickerel. New York State fishing regulations apply including a special regulation on sunfish which can be caught at any size with a 15-catch daily limit. Pike can be found in weedy shallows while perch usually hang at intermediate depths or near the bottom of the lake. Fishermen have also found success along the weed lines at Manning's Cove and Browns Beach on Saratoga Lake. There, jigging brightly colored dots enhanced with mousies or mealworms as well as using spoons and live shiners have enticed fish. For more information on ice fishing in Saratoga Lake please visit the DEC website and remember to please use native bait.

# Understanding LAKE LEVELS

NOTICE: Central Rivers Power, LLC, is the privately owned dam on Fish Creek that controls the lake levels within Saratoga Lake. Saratoga Lake has a very large watershed coming into the lake, 244 square miles.

There are many factors involved with the delicate operation of the dam. Beyond recreation, downstream community safety is an issue with flooding, which may factor at times with maintaining a higher lake level in the body of Saratoga lake to protect other communities. One inch of rain can raise the lake level three inches making the water level difficult to control for the dam operator. Water quality, lake access and weed control are also taken into consideration. With climate changes occurring bringing more intense weather conditions such as superstorms and drought periods, consistent water levels are even more difficult to maintain.

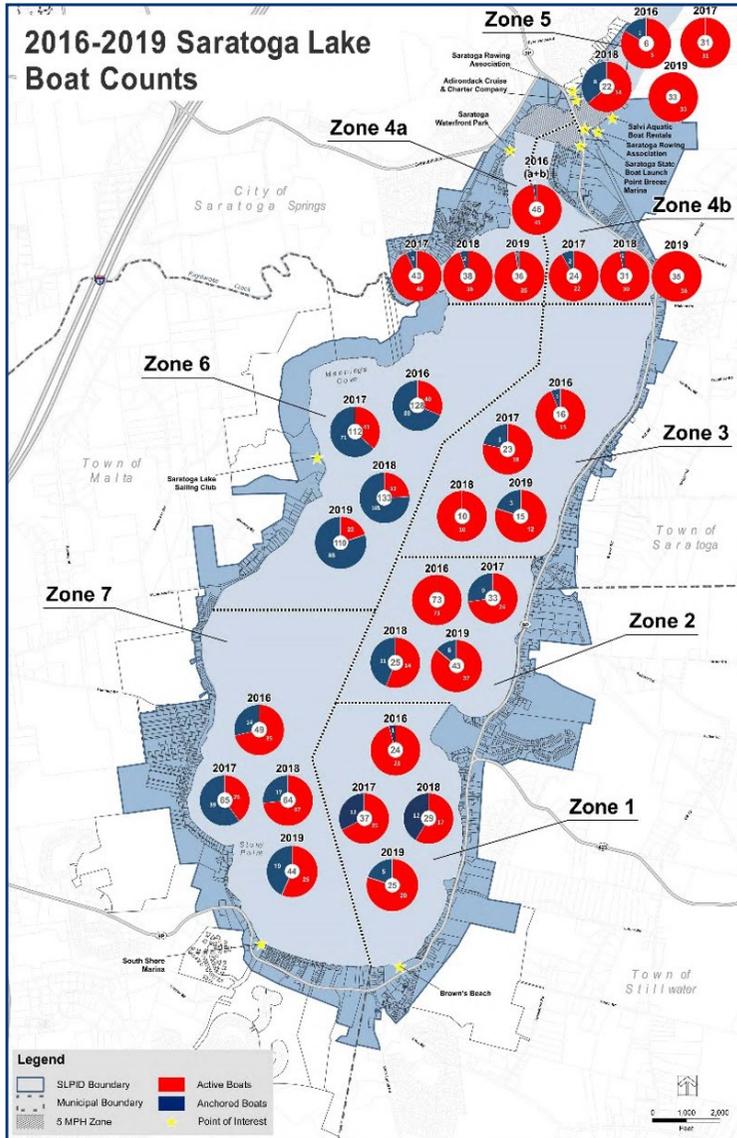
Ideal summer water level is 203.3.

At the end of October, the dam is opened, you will begin to see the water level in the lake then begin to lower. There is no winter water level to be maintained. Please take all of this into consideration when thinking of the lake level.

# 2019 SARATOGA LAKE DRAFT BOAT COUNT REPORT

The annual lake-wide boat count was conducted on Saratoga Lake on Sunday, July 7, 2018 from 12:15 – 1:40 p.m. The weather was a mix of sun and clouds and 92° with a light breeze. The lake was divided into 7 zones. Boats moored or parked at docks were not counted as part of this effort, however, Saratoga Lake Boat Stewards conducted a separate count of “at-dock” boats July 22-25 and their findings are presented on next page.





### A total of 341 boats were on the lake between 12:15-1:40 p.m.

- 219 boats actively moving
  - 52 motorboats
  - 31 jet skis
  - 36 unpowered boats
- 122 boats at anchor

### 2019 At-Dock Boat Count:

- Motorized: 1,471
  - 246 jet skis
- Non-Motorized: 1,167
  - 564 kayaks
  - 60 canoes
  - 193 sailboats
  - 350 other small craft

### State Boat Launch Statistics

(As reported by SLPID Boat Stewards for 2019 Season)

- 4,259 Motorized watercraft: 3,578 (84% of total watercraft).
- Non-motorized watercraft: 681 (16% of total watercraft).

Total Boat Count Summary				
2016	2017	2018	2019	4-Year Average
342	368	338	342	348

