



TRUE BLUE News

Do You Know?

Deicing salts typically contain sodium chloride (NaCl), because it is cheaper than other deicing chloride products like magnesium chloride, potassium chloride, calcium chloride or other calcium salts.

Chloride is used as an indicator of saltiness (or salinity) of water.

Freshwater contains less than 3 gm/liter (or 30 mg/L) of chloride.

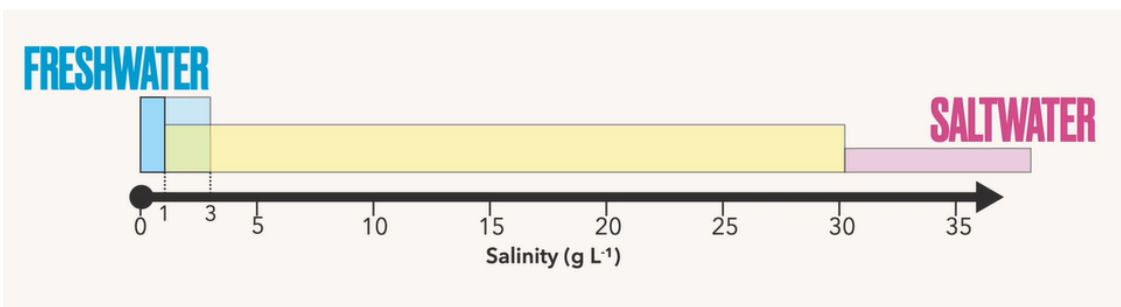


Image: Dugan, Hilary, March 30, 2023. Freshwater is the best water: How salt is a threat to our freshwater rivers and lakes presentation.

Lake Michigan chloride concentrations have increased from 1-2 mg/L in the 1800s to more than 15 mg/L in 2020.

Torch Lake chloride concentrations doubled from 1992-2016 but then declined.

The Antrim County Road Commission’s practice of “conservative use of deicing material” may contribute to this recent decline in chloride concentration in Torch Lake.

Deicing salts can contribute to a saltier Torch Lake and so can water softeners and fertilizers.

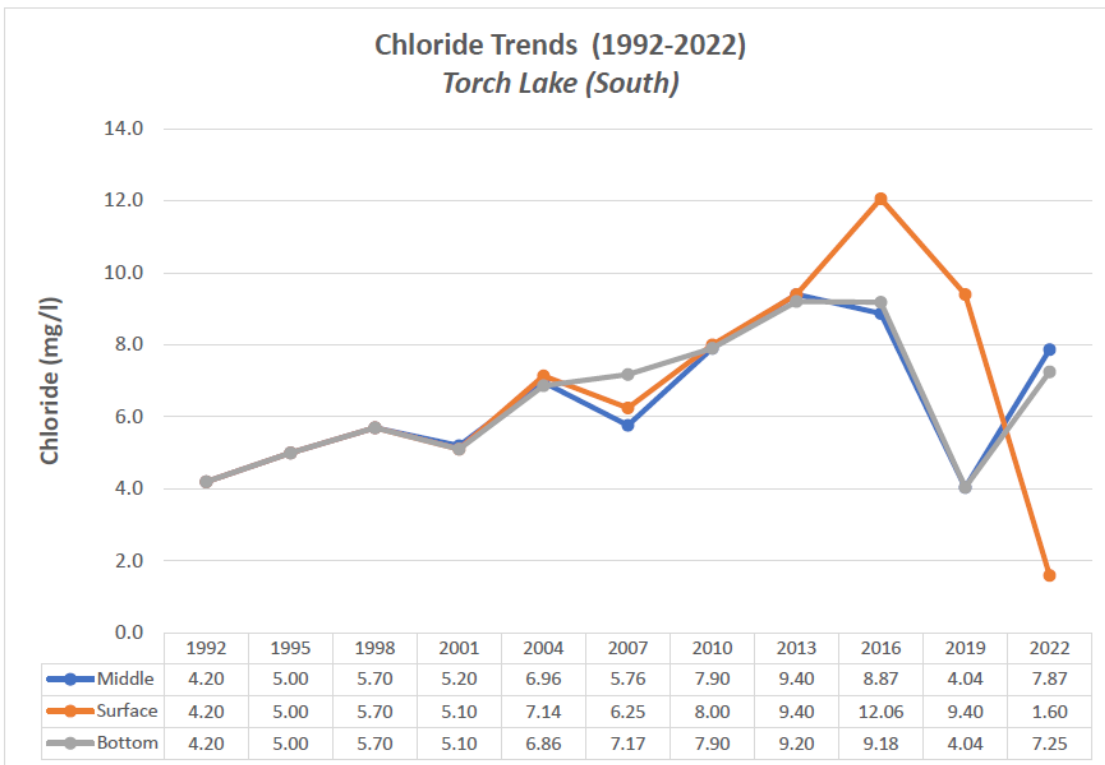


Image: Tip of the Mitt Watershed Three Year Monitoring. Sampling occurs in early Spring.

Key Facts:

Chloride concentrations at elevated levels can become toxic to plants, aquatic life and people.

Deicing salts can kill your grass and plants.

Deicing salts can be carried by stormwater into rivers, streams

and Torch Lake.

Zooplankton, microscopic animals that feed on small plants in lakes or [algae](#) are susceptible to increases in chloride concentrations.

A decline in zooplankton can lead to declines in fish who depend on them for food.

Unfortunately, [invasive zebra mussels](#), present in Torch Lake, are tolerant of elevated chloride concentrations. Higher salinity gives an additional advantage to this invasive species over native mussels.

Deicing salts collected in soil percolate down to groundwater and increase chloride concentrations in your drinking water (well water.) People on low salt diets may be getting too much salt in their drinking water.



Image: Dugan, Hilary, March 30, 2023. Freshwater is the best water: How salt is a threat to our freshwater rivers and lakes presentation.

"The problem of too much salt in our waters is solvable. Use less salt!" Hilary Dugan



Show You Care!

OUR CHOICES MATTER when it comes to handling ice and snow on our properties.

Step 1. Shovel, sweep or blow snow OFTEN—
at the beginning and throughout a snowstorm.

- Removing snow helps prevent ice buildup.

Step 2. If needed to prevent slips and falls, then apply deicing salts correctly.

- Do NOT apply salt to snow.
- Shovel, chisel or scrape surfaces before salting.

Step 3. Read and follow directions on the deicer label for optimal air temperature usage.

- Deicing salt works by lowering the freezing point of water.
- Water freezes at 32° F.
- Sodium chloride lowers water's freezing point to 15° F.
- Some deicers can work down to -15°F.

Step 4. Spread salt evenly, leaving a few inches between grains.

A handful of salt should cover 9 ft.

A cup of salt should cover a 20 ft long driveway.

A little salt goes a long way.

- Using MORE deicing salt is NOT safer.

Step 5. Sweep up any spills or salt grains on dry surfaces.

Save in a container to reapply as needed later.

For more information on the proper use of deicing salts, [watch this 5 minute video](#).

Shovel first to
remove snow

Scatter salt (if
needed) leaving
space between the
grains

Switch to sand if
the temperature is
below 15 degrees

Image: WIsaltwise.com



"I don't want to be a salty dog?"

Photo: Torch Conservation Center

Step 6. Deicing salt can burn your dog's feet. It is also harmful if ingested when your dog licks his feet after walking in road salt.

- Wash your dog's paws in warm water when you enter your house.



Wintery Torch Lake Road

Photo: Barbara Lockrey

Heard around the Torch Lake Watershed

Judy- " I blow the snow off my drive before any vehicle traffic packs it down and the snow turns to ice. It's more efficient for me to blow the snow away versus pushing it with a plow and finding someplace to put it in a pile. I use a special deicer called Ice Melt. It usually melts the ice as long as the temperature is above -15F."

Dave- "We have a hired snowplow to take care of the snow on the common driveway that four houses share. The plow automatically comes if there is over two inches of snow. As this common drive is on a very steep slope, the truck then deposits a layer of sand (not salt) on the drive after plowing. The sand is only on the hill part and not placed on the flat part of the driveway. Sometimes, the driver has to make repeated applications of the sand for heavy ice."

Connie- "My neighbor does the snow-blowing and a friend plows the alley magically

when I'm not home. I rarely shovel—I just make a path with my footsteps!"

Fun Snowfall Facts:

In Antrim County the month of January typically has the greatest amount of snowfall. The annual average snowfall in Mancelona is 150 inches.

Long Term Monitoring Data from Antrim County Road Commission.

**ANTRIM COUNTY ROAD COMMISSION
SNOWFALL**

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
38 - 39	0.0	5.5	24.9	19.3	20.0	27.9	13.1	110.7
39 - 40	2.0	7.0	25.0	62.0	11.0	16.5	1.5	125.0
40 - 41	0.0	17.0	28.0	34.5	33.0	17.0	0.0	129.5
41 - 42	0.0	12.0	25.0	49.5	17.5	28.0	1.0	133.0
42 - 43	5.0	13.0	42.0	43.5	43.5	26.0	12.0	185.0
43 - 44	11.5	16.5	21.0	9.0	12.5	22.5	5.0	98.0
44 - 45	0.0	20.9	40.2	45.8	15.3	3.8	0.0	126.0
45 - 46	0.0	9.5	40.2	46.2	30.0	7.2	0.0	133.1
46 - 47	0.0	3.0	35.5	35.9	80.1	14.7	0.3	149.5
47 - 48	0.0	0.0	28.7	59.4	23.8	19.2	0.0	131.1
48 - 49	0.0	1.5	52.4	33.7	36.7	9.1	2.8	136.2
49 - 50	0.0	35.3	44.9	25.2	27.5	25.7	14.2	172.8
50 - 51	0.0	40.1	30.9	42.6	26.5	36.0	8.0	184.1
51 - 52	0.0	43.7	37.7	26.1	13.3	16.6	6.7	144.1
52 - 53	4.0	10.5	28.1	45.9	37.3	21.9	3.9	151.6
56 - 57	0.0	17.3	17.5	26.6	14.1	9.0	12.9	97.4
57 - 58	0.0	17.9	16.2	24.1	21.7	5.6	0.0	85.5
58 - 59	0.0	14.8	48.5	36.9	26.1	25.4	4.0	155.7
59 - 60	2.0	21.4	5.8	25.3	29.4	19.1	0.0	103.0
60 - 61	1.6	10.5	44.0	28.1	11.1	7.3	2.0	104.6
61 - 62	0.0	13.4	42.3	44.7	28.1	6.4	0.0	134.9
62 - 63	18.0	7.0	47.3	36.5	20.1	19.5	0.0	148.4
63 - 64	0.0	5.9	54.5	29.5	13.5	33.4	3.0	139.8
64 - 65	3.5	20.5	30.4	49.3	33.4	21.8	9.5	168.4
65 - 66	0.0	10.0	12.0	33.4	29.8	9.5	5.5	100.2
66 - 67	0.0	16.5	24.2	41.6	45.5	4.1	4.0	135.9
67 - 68	2.0	36.5	34.7	29.9	33.6	1.7	0.0	138.4
68 - 69	0.0	23.9	67.4	73.8	14.6	14.4	0.0	194.1
69 - 70	2.8	20.7	28.1	53.7	28.2	20.2	2.4	156.1
70 - 71	0.0	17.7	32.0	75.1	44.7	30.8	7.2	207.5
71 - 72	0.0	17.5	28.1	31.4	31.8	28.3	1.9	139.0
72 - 73	3.3	14.2	59.2	37.6	23.5	0.0	4.7	142.5
73 - 74	0.0	16.9	24.5	49.4	33.3	23.8	6.0	153.9
74 - 75	4.4	17.0	28.1	63.1	48.0	46.4	0.2	207.2
75 - 76	0.0	5.5	44.2	56.0	40.5	31.9	1.6	179.7
76 - 77	1.0	47.9	53.8	67.7	29.3	12.6	8.4	220.7
77 - 78	0.0	26.6	56.6	62.1	25.6	7.6	0.3	178.8
78 - 79	0.0	10.8	58.9	76.8	31.6	12.8	6.0	196.9
79 - 80	0.0	15.6	19.4	43.3	24.7	17.2	14.2	134.4
80 - 81	2.3	9.8	68.2	40.4	44.4	12.6	0.0	177.7
81 - 82	6.8	5.1	38.4	86.4	14.4	16.3	8.1	175.5
82 - 83	0.0	15.9	13.5	26.0	15.0	10.0	6.0	86.4
83 - 84	0.0	9.9	84.4	40.7	8.6	14.3	2.6	160.5
84 - 85	0.0	3.5	32.7	63.5	47.1	18.8	11.3	176.9
85 - 86	0.0	19.7	97.1	30.9	13.0	18.3	2.2	181.2
86 - 87	0.0	17.4	31.4	28.8	10.5	6.8	8.0	102.9
87 - 88	3.5	17.5	27.3	43.8	48.9	20.6	2.0	163.6
88 - 89	9.8	9.2	52.4	42.2	43.0	36.4	4.2	197.2
89 - 90	2.5	41.8	58.7	48.5	12.3	7.2	4.5	175.5
90 - 91	0.0	17.5	40.5	52.5	34.5	10.5	5.5	161.0
91 - 92	2.0	32.5	41.0	36.7	26.8	8.5	8.0	155.5
92 - 93	8.8	32.5	55.2	38.0	39.0	6.5	8.5	188.5
93 - 94	1.0	11.5	51.0	71.5	24.0	15.0	6.0	180.0
94 - 95	0.0	18.0	6.0	48.5	44.0	14.5	4.1	135.1
95 - 96	0.0	66.5	75.5	42.5	29.5	19.0	12.0	245.0
96 - 97	0.0	57.5	47.0	74.5	35.5	22.0	8.5	245.0
97 - 98	3.5	20.5	14.5	38.5	1.0	27.5	0.0	105.5
98 - 99	0.0	5.5	42.5	56.5	14.0	13.0	4.0	135.5
99 - 00	0.5	2.0	37.5	42.0	19.5	2.0	1.5	105.0
00 - 01	0.0	45.5	59.5	20.5	31.0	31.5	2.0	190.0
01 - 02	2.0	1.0	58.5	21.5	29.5	22.0	9.0	141.5
02 - 03	1.0	13.0	21.0	75.0	31.0	9.5	10.5	161.0
03 - 04	2.0	0.0	20.5	103.0	23.0	9.5	0.0	158.0
04 - 05	0.0	4.0	47.5	24.5	24.0	18.0	1.5	119.5
05 - 06	0.0	33.0	48.5	29.0	52.5	2.5	2.5	168.0
06 - 07	8.5	3.0	49.5	35.0	51.5	11.5	13.0	172.0
07 - 08	0.0	17.0	42.0	47.0	40.5	12.5	0.0	159.0
08 - 09	0.0	44.5	67.0	48.0	29.0	17.5	2.5	208.5
09 - 10	0.0	2.5	65.5	24.5	8.0	0.0	0.0	100.5
10 - 11	0.0	1.5	44.0	68.0	12.5	24.5	8.0	158.5
11 - 12	0.0	6.5	13.0	29.0	22.0	17.0	0.0	87.5
12 - 13	0.0	7.5	21.5	42.5	43.0	25.5	7.5	147.5
13 - 14	3.0	21.0	53.5	44.5	25.5	12.5	4.0	164.0
14 - 15	1.0	47.0	11.0	28.0	17.5	3.5	2.5	110.5
15 - 16	3.0	4.5	9.0	49.0	22.5	10.5	12.0	110.5
16 - 17	1.0	3.5	64.5	41.0	19.5	11.5	0.0	141.0
17 - 18	3.0	10.5	58.5	19.0	13.0	20.0	40.5	164.5
18 - 19	0.5	26.5	19.0	44.5	42.0	15.5	5.5	153.5
19 - 20	3.0	43.5	52.5	30.0	31.5	4.5	5.0	170.0
20 - 21	1.0	4.5	20.5	23.5	23.5	1.5	0.5	75.0
21 - 22	0.0	30.0	33.1	34.5	16.0	16.5	2.0	132.1
AVERAGE	1.6	17.9	39.2	43.3	27.5	16.0	4.9	150.4



Cold, Clear Torch Lake

Photo: Peg Comfort

Sources:

Antrim County Road Commission Website <https://www.antrimcrc.org/>

Personal Correspondence with Manager of Antrim County Road Commission Burt Thompson, P.E.
Tip of the Mitt 3 Year Monitoring Program

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Dugan, Hilary A. March 30, 2023 Freshwater is the best water: How salt is a threat to our freshwater rivers and lakes. Trent University's David Schinlder Professorship in Aquatic Science Lecture. <https://www.youtube.com/watch?v=EtX2Y-LKpiA>

Greco, D. A. et al. 2023 Effects of chloride and nutrients on freshwater plankton communities. Limnology and Oceanography Special Issue Salinization of Freshwater Ecosystems.

WIsaltwise.com

At [Torch Conservation Center](#), we **BELIEVE**
an informed Torch Lake Watershed community cares for Torch Lake
and keeps toxins, nutrients, sediments and invasive species out of the water.

Join us.

[Donate now.](#)

Helping Torch Lake is just a click away.

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