



RESIDENTS
ASSOCIATION

Understanding Ice at the ABRA

AuburnBayRA.ca

Q: What factors affect the time at which the lake starts to freeze?

A: Temperature is the biggest factor that affects freezing time. Water needs to cool to the freezing point before ice forms. The more water volume a lake has, the longer the lake takes to cool to the point of freezing.

Q: What do the size, shape, and depth of the lake have to do with ice formation?

A: Lake size, shape, and depth tell us how much water there is to cool.

Q: Does this mean that other lakes in Calgary could have different ice conditions than Auburn Bay's lake?

A: Yes. Different lakes hold different quantities of water. Once ice starts to form on a lake, the temperature, wind, and amount of snow cover on the ice surface determine how quickly the ice thickens.

Q: How does ice thicken?

A: Ice forms from the top down into the lake. The top layer of ice is called primary ice. The next layer is called secondary ice.

Q: Is there any other way to thicken ice?

A: Yes. Snow or water on the ice surface can cause slush which can freeze into ice. This process causes ice called superimposed ice.

Q: When does slush occur?

A: Slush occurs when water comes up through cracks in the lake ice. These cracks are caused by pressure from melting snow, rain, or extremely cold temperatures.

Q: Does snow slow down the ice thickening process?

A: Yes. Snow insulates. The more snow on the surface of the lake, the slower any heat escapes the ice. Therefore, secondary ice growth slows when snow sits on top of the lake ice.

Q: Do snow and slush eventually freeze into ice?

A: Yes, but the speed at which this freezing occurs relates to the temperature and the amount of snow or slush on top of the water. Snow and slush that freeze on top of primary ice form superimposed ice.

Q: Can you predict how thick ice will be?

A: Predicting ice thickness is possible; however, it is complicated and sometimes inaccurate. In order to ensure the continued safety of all of our residents, the ABRA does not predict ice thickness. The ABRA's maintenance team does frequent testing on the lake to discover the actual ice thickness and quality.