

Cycle of Ice

Man searches for Whitefish Lake freeze, thaw history

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By HEIDI DESCH Whitefish Pilot



Whitefish Lake has completely frozen over this winter. Last year it remained largely open and a few winters in the past have also not seen the lake frozen.

From the window of his home above Whitefish Lake's City Beach, Scott Wurster has been keeping an eye on the winter ice as it slowly hardens to form solid layer.

After years of observing this annual event, he became curious. He wanted to know why the lake freezes over one year, but then might not the next. He wanted to know if the freeze and thaw dates for the lake have changed over the years.

"Whitefish Lake is a unique little gem," Wurster said. "My gut tells me this is important information and we should be looking at what it means."

Whitefish Lake covers 5.22 square miles and has an average depth of 109 feet.

Wurster set out to gather information and talk to scientists to see if he could find any answers. His goal was to write a magazine article based off his research.

Through the Pilot archives, he was able to find published charts listing dates for freeze in and out from 1914 to 1962. There were four winters during that time period when the lake is listed as having not frozen — 1933-34, 1940-41, 1952-53 and 1960-61. During the 2012-13 winter the lake also remained largely unfrozen.

Exactly what it means when the lake was listed as not frozen is unclear. Some people might consider the lake not to be frozen as it having completely open water. Others might consider the lake to not be frozen if the center of the lake remains open.

While dates for lake freezing only go until 1962, it appears as though the lake historically has frozen in December or January. The lake water most often opened up in April.

Wurster hit a stumbling block in his research trying to locate data after 1963 and present day information. He contacted numerous prominent scientists hoping that someone had been collecting freeze data for Whitefish Lake. What he found was that while many of them were interested in obtaining that type of information, they hadn't been able to track it themselves.

"There's a huge gap in information," he said. "There's a number of people that would like to have that baseline information."

Ultimately, Wurster is hoping that someone may have kept track of that information through personal observations. He points to similar seasonal patterns that occur in nature, such as bird migration, that have for years been tracked by citizen scientists.

"None of these scientists are tracking this," Wurster said. "That's where citizen science comes in — what they've noticed that might show a different pattern."

Although the Whitefish Lake Institute has spent nearly a decade studying Whitefish Lake and area watersheds, data on the freeze dates of the lake isn't something it has either.

Whitefish Lake Institute director Mike Koopal said that while many factors can effect Whitefish Lake, if an ice-free scenario becomes the norm, that could increase the algal production in the lake.

"In Whitefish Lake, the historically typical scenario of ice cover during the winter months limits algal production," Koopal said. "This is primarily due to snow accumulation on top of the ice which limits sunlight penetration needed for photosynthesis."

While that could effect the entire food web in the lake, it's hard to predict what it would mean for species like fish, he noted.

Ice typically forms on the lake with very cold and windless conditions, Koopal said. He notes that waves caused by wind will break newly formed ice as it expands out from the shoreline.

The Whitefish Lake Institute has agreed to accept information people might have about the dates of freeze-in and freeze-out for the lake. Contact them at 862-4327.

Residents keep watch on yearly ice patterns

By HEIDI DESCH Whitefish Pilot

Whether for recreation purposes or simple curiosity, a few longtime Whitefish residents have been keeping an eye on Whitefish Lake during the winter.

Opinions vary on whether the freeze and thaw cycles of the lake have changed over the years. Some have said there doesn't seem to be a noticeable change in when the lake freezes. Still, others say the lake is freezing later in the winter than it has in the past and for a shorter period of time.

The winter of 2012-13 the lake remained mostly open and this year the lake has frozen over completely.

Charlie Abell grew up on the lake. He remembers his father clearing off the snow in Monks Bay so folks could come to build a bonfire and ice skate. Abell graduated from Whitefish High School in 1958 and returned home in 1965.

"In my memory, nearly every year it has frozen," he said. "Last year was as open as I've ever seen it."

Last winter the lake only froze some in the bays, he noted, something he never recalls happening before. Generally, he says, the lake seems to be frozen over by early January. Usually the lake water is open by the end of April.

"I remember teasing my boys on April Fool's Day that the ice was gone and we could go fishing," he said. "There was a time or two that it didn't go out until May 1, but that wasn't usual."

Abell said last winter seemed to be warmer and this winter has been colder than normal.

"This year has been different and last year was different from the last 20 years," he said. "But I don't think either is part of a trend."

Jim Stack has lived on the lake for the last 28 years. For many years, he and wife Lisa served on the Whitefish Lakeshore Protection Committee. They have had an interest in the lake, but keeping an eye on the lake in winter came from their desire to ice skate and cross-county ski across the frozen surface. They began to keep a diary of their observations in an attempt to predict when the lake might freeze each year.

"The freezing is almost unpredictable for when it will happen," Stack said. "The earliest I've seen it freeze is Dec. 20, but I've also seen it freeze as late as February."

Stack has observed some factors that he says are key to whether or not the lake will freeze. The lake water has to be at 39 degrees or less, there needs to be a couple of days of sub-zero temperatures, and there can't be any wind blowing, he said.

"Sometimes the lake tries to freeze four to five times during the winter, but the weather just doesn't stay quite calm and cold enough," he said.

Stack said thawing generally occurs between April 1 and April 20, but even that is dependent on spring temperatures. How the ice thaws is highly variable — sometimes as a solid ice pack, sometimes as ice crystals and sometimes it disappears overnight.

"The ice can go out in a very short period of time — in a 12 to 24 hour period," he said. "It's not unusual for it to be gone over night."

Based on his observations over the years, Stack doesn't think the freezing or thawing of the lake has changed.

"The perception is that with global warming it might be freezing less, but that doesn't seem to be the case," he said. "Some years, it just doesn't freeze. Not freezing doesn't seem to be more frequent now than in the past."

Steve Thompson also watches the lake so he can lace up his skates and head out when it has safely frozen. He's lived in Whitefish for 20 years and currently lives along the lake. He says he can usually count on the lake being frozen over by New Year's Day.

"The ice on the lake is a good indicator of the winter temperature," he said. "There will be good ice if it's been very cold."

During the time he's lived here, Thompson said the date the lake is freezing appears to have shifted two weeks later than it was in the past. While he doesn't specifically watch for a thaw date, he has noted that the lake seems to be frozen for a shorter period of time each winter.

"The lake seems to be an indicator of what's happening with the weather," he said. "It seems to be melting out faster."

Thompson said that the winter weather has been changing. He pointed to the fact that Whitefish Lake remained in open water last winter and this year has frozen over completely.

"Typically there's a January thaw where we get three days above freezing," he said. "Now we seem to be having that in January and February. We're getting warm temperatures along with cold, arctic spells."

