

Great Lakes welcome rising water levels

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After years of parched shorelines, water levels in the Great Lakes have come rushing back. The crowds that flock to the Superior shoreline this summer are finding harbors deeper and beaches narrower than they've been in 15 years.

"I hope this lasts," said Dave Tersteeg, director of parks and recreation for the Arrowhead resort town of Grand Marais. Water levels have been so low in recent years, he said, "there was some real fear that we'd have to dredge the harbor."

Boats bob in the town harbor beside ramps that are nearly level with the lake surface. Last summer, the ramps tilted toward the depleted waterline at such a steep angle, Tersteeg worried for boaters' safety. The water's deep enough now that even the largest sailboats can pull in to refuel. Last year, he said, they risked scraping the harbor floor.

Superior's water levels are almost a foot higher than they were at this time last summer and 7 inches higher than average.

Climate change has taken a toll on the Great Lakes, warming the water and thinning the ice sheets that protect the lakes from winter evaporation. The Great Lakes have always had their ups and downs - water levels were very low in the '60s and so high in the '80s that houses slipped off eroded shorelines and into the water. But the 15-year streak of low water was unprecedented - and alarming.

"That was something we hadn't quite seen in the historical levels," said

Drew Gronewold, hydrologist for the National Oceanic and Atmospheric Administration's Great Lakes Environmental Research Laboratory.

"Now, Lake Superior has gone back up."

All the Great Lakes are on the rise - Michigan and Huron are up a foot, Ontario and Erie are more than half a foot higher than they were last summer.

The waters have rushed back at speeds that astonished and delighted residents, scientists, ports and resorts. Heavy rainfall fed the lake's tributaries and the severe winter capped Superior with thick sheets of ice that slowed evaporation.

"What's amazing is the speed at which the lake levels have been returning to normal," said James Sharrow, facilities manager at the Duluth Seaway Port Authority. "It affects everybody from the fishermen to the beachgoers to the property owners. Everybody likes to see water levels about average."

Average looks pretty good to communities that have been looking at a lower-than-average shoreline since the late '90s. The massive cargo ships in the Port of Duluth, which had to reduce their cargo loads by as much as 10 percent to squeeze through commercial channels and into shallower ports, can once again ply the Great Lakes with full cargo loads, Sharrow said.

A thousand-foot ship carries about 3,000 tons of cargo for every foot of draft - the distance between the waterline and the bottom of the ship. More water under the ship means more cargo in the hold, and Sharrow said the shipping companies will be able to carry the cargo equivalent of two extra shipping runs this year, compared to 2013.

The same rising tides that benefit the \$34 billion Great Lakes shipping

industry are helping out much smaller recreational boats.

"There were marinas boats couldn't get into, especially on Lakes Michigan and Huron," Sharrow said. "They were hitting record lows - they were more than 3 feet below average. Boats might be high and dry, or sitting on the bottom."

How long the water will stay high remains to be seen. Polar vortexes don't come around every year, but NOAA is predicting water levels will continue to rise through the summer.

Predicting water levels more than six months into the future is all but impossible.

A few months ago, visitors to Wisconsin's Apostle Islands National Lakeshore could trek across the frozen surface of Lake Superior to marvel at the ice-encrusted coastal caves that are usually accessible only by boat. This summer, another unusual sight will greet visitors: narrow strips of sand that used to be sprawling beaches, now swallowed by Superior.

"One of the most popular activities here at the park is walking on the beach," said Neil Howk, assistant chief interpreter at the national park. "The beaches aren't going to be as wide for walking on this year, and if there are waves coming ashore, people are going to get their feet wet."

The change in the water level, "it's noticeable," he said. On Memorial Day weekend, boats around the Apostle Island were dodging icebergs. Over the Fourth of July, those same boats could pull comfortably up to docks that were barely accessible last year.

"When you get a 13-inch change in [water levels](#) over a 12-month period, you're going to notice it," he said. "The beaches this year are pretty small

and pretty steep. We've had 15 years of pretty expansive beaches. This year? No."

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