

## Lake Winnebago Ice race

The Lake Winnebago Ice race was the third SOL race in an DN ice boat in this northern hemisphere winter. All three were sailed in relatively light air.

At 4.5 knots wind speed (the average during the Lake Winnebago race) the upwind VMG of the DN ice boat is 11.8 knots at a target speed of 17 knots while the downwind VMG is 13.3 knots, also at a target speed of 17 knots. This is extremely fast when compared with conventional boats that float on liquid water. But the relative difference in speed is not that large. Which leads me to conclude that in these conditions the wind direction is not as important as is usually is.

I think in these conditions it is most important to find the spots along the course where the breeze is strongest. For example, at a beam reach the boat speed increases from 21.4 to 22.4 when the wind speed increases just by a tenth of a knot from 4.5 to 4.6 knots. So it pays to sail some extra distance. This is probably different if the breeze is up, but not in this light stuff.

These small differences are difficult to detect with the SOL client, where the contour interval between isotachs is 2 or 3 knots. But with the high resolution weather model they are very common. I use the mouse to move the cursor over the course and read off the wind speed in the display in the upper right corner.

I started the race on a run with a course that was slightly curved towards the stronger breeze at the western shore and immediately gybed towards the coast at the Stevens reef mark. After I had gybed back and cleared the first headland, I have put in two more quick gybes to get into the breeze in the next bay. Fortunately the performance loss was not an issue during this race. The next two legs past the Oshkosh and Long Point marks towards Fond du Lac were sailed almost on a straight course.

Past the bottom mark I started the upwind return trip by continuing on port, sailing into a strong wind shift to the right. After the tack I tried to hug the coast for much of the remaining course, because I felt there the wind was slightly stronger than in the middle of the lake.

I can't say anything about my competitors, because I tend to sail in sprint races with a custom boat list that just includes my own boat. That way I don't get disturbed and accidentally hit the [Send Command] button when I am zoomed in on a mark and suddenly some other boat appears on the screen.

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