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This year, on January 5, there were high fives, whooping, and hollering on the UC Davis research vessel. New Year's Eve had long gone. Everyone had driveways full of snow waiting to be shoveled at home. Why the festivities?

The reason for the celebration was "clear." The first lake clarity measurement for 2022 was just taken and the Secchi disk was visible at an astounding 138 feet below the lake surface! That is the second deepest measurement recorded since routine monitoring started in 1968, the best being 142 feet on February 8, 1968. It is worth noting that a majority of TERC's sampling team had not even been born at that time and the current, aging research vessel had yet to be built.

What did this measurement signify? Had the lake's clarity been restored? Had the devastating fires and smoke from just a few months earlier somehow jolted the system back half a century? Unfortunately, neither was the case. What the team observed was the result of a "lake upwelling event." High winds the previous day caused deep water from the bottom of the lake to rise to the surface (a distance of 1,500 feet) and remain there for 1-2 days before sinking back to the depths. When that Secchi depth measurement was recorded, the disk wasn't measuring the clarity of the surface water, but instead the clarity of the bottom water.

Is this good or bad? It's actually very good, as it confirms that the water at the bottom of Lake Tahoe (the majority of the water) is actually very clear. We do not have murky depths. We have crystal clear depths. What the restoration of Lake Tahoe's clarity requires is cleaning the upper waters, which were once routinely clear.

How can that be done? For the last 20-30 years strenuous efforts have gone into trying to keep fine sediment out of the lake. These efforts have yet to show a long-term improvement in clarity, although the rate of decline has slowed during this time. A strategy worthy of further exploration is restoring the native food web of the lake. The food web was devastated in the 1960s when the *Mysis* shrimp was introduced and immediately decimated the population of native *Daphnia* or "water fleas." *Daphnia* are recognized globally as an indicator of high water quality, as they filter out the fine particles and algae directly responsible for low clarity. Find out more about the research being done on an ecologically friendly, sustainable solution here.

What has happened to clarity since January 5? As expected, with the return of the "upwelled" water back to the bottom of the lake came the return of the usual surface water, and clarity dropped by 60 feet by January 10.

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