

Water Quality Update to Residents 3/2025

All 7 ultrasound units were in the water for the 2024 inaugural season, April 14-November 24. We encountered some technical issues with a few units during the summer, all were resolved at no cost to HVLA, most within a few days of identification. The only occasions when units were offline for more than a few days include: the Maui-Kona cove unit was pulled for repairs for approximately 3 weeks in early July, the Makaha-Oahu cove unit was out for repairs for approx. 3 weeks late June-early July, and the Kauai-Oahu cove unit was offline for approx. 3 weeks mid-September.

The overall trend in algae counts was very good for the first year.

We **started May** with the following algae counts:

1. West Lake Coves: 1242.63 mg/L
2. West Main Center: 1390.51 mg/L
3. East Bay Triangle: 2024.09 mg/L
4. East Beach Area: 1762.97 mg/L

We **ended October** with the following algae counts:

5. West Lake Coves: 276.40 mg/L (77% drop)
6. West Main Center: 254.10 mg/L (82% drop)
7. East Bay Triangle: 209.80 mg/L (90% drop)
8. East Beach Area: 177.47 mg/L (90% drop)

Water IQ suggests sustained levels near 500 are ideal for a healthy lake. The numbers at the end of the year are well below that, obviously, but are partially a result of the cooling water temperatures from late fall weather. Mid-summer the numbers were actually higher than the starting point because conditions for algae growth were prime. For a more representative measure, at the end of September, counts were down 52%, 68%, 56%, and 42%, respectively, so the units were definitely doing their job. The same water samples also revealed high concentrations of detritus/dead algae June-October, which is a reflection of the amount of algae dying at any given point, so we know we were making progress. Very positive results overall!

Water Clarity Readings:

Water clarity, measured by Secchi disk, ranged 12-14" at the start of Spring (we measure at the same 4 locations as the water samples), and maintained in that range most of May, June, and July. The clarity readings for mid-July-Oct reflected a range of 12-18" clarity, a minor improvement but in the right direction. As discussed before, clarity readings are subject to many variables (time of day, amount of clouds/sunlight, turbidity from storms/boats and beach reclamation efforts) and it will be a lagging measure of changes/improvements in the water.

Phosphorus & Nitrogen Test Results:

May 30, 2024 water samples revealed that we have good levels of nitrogen in our lake but exceedingly high phosphorus levels.

Nitrogen: .20 mg/L, right at the “testing limit” recommended by the EPA (.20 mg/L)

Phosphorus: .22 mg/L, whereas the testing limit is recommended to be below .05 mg/L.

Our lake tested at 4x the EPA recommended level! Our lack of a storm water system under our streets means that everything used on the houses, lawns, roadways and driveways of HVLA eventually ends up in the lake. Additionally, we know there has likely been phosphorus contributed from the agricultural watershed north of the lake. The WQC is taking steps to address both sources of excess phosphorus, including working with the SID #97 board, and identifying organizations in the water management community that might have ways to measure and remediate (if necessary) effects from upstream in our watershed.

An important step residents can take to minimize additional phosphorus in the lake is to be certain you (or your lawncare company) are using PHOSPHORUS-FREE fertilizers. The closer the source of phosphorus is to the water the greater the concentration (higher the impact) when it gets filtered into the lake, so HOMEOWNERS are the first line of defense against increasing phosphorus levels.

If you have questions about any of the work the Water Quality Committee is doing, reach out to one of our members:

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