

## Water Quality Condition Assessment in Lake #5 March 15, 2025

Using a Multiparameter Water Quality Analyzer, we measured several parameters in Lake #5 (behind Patio Homes) to determine if a chemical imbalance was contributing to the perceived absence of a robust fish population and the absence of wading and shorebirds on this lake. The device consists of a 'sonde' that houses 4 sensor probes (for conductivity and temperature, dissolved oxygen, nitrate, and total algae through chlorophyll) and a handheld computer. Although this was only a one-time measurement, we believe there is no chemical imbalance preventing an ecosystem balance of fish and other aquatic life in this pond.

**Summary of Findings:** The lake is shallow throughout with the deepest point noted being 5.6ft, but the majority of the lake less than 3ft. A healthy growth of macrophytes (aquatic plants) suggested good habitat for fish and other aquatic organisms. Of the parameters measured, dissolved oxygen may be the most problematic registering less than 60% saturation in the deeper sections. However, the majority of



locations measured were above 80% saturation which is considered good for aquatic life. Nitrate was lower than the 2.2mg/L level that is an action threshold for our lakes. This is good meaning that the aquatic plants are assimilating the nutrients entering the lake. This is also supported by low chlorophyll readings (meaning low amount of algae in the open water), and the expectation of algae blooms is low.

**Recommendations:** With the overall condition of the lake being in good shape at this time of the season, we recommend that we measure the dissolved oxygen again in the warmer months to determine if the oxygen content is variable enough to prohibit good ecosystem health. A mixing effect would help to facilitate better oxygen throughout, but it is not yet to the point to justify an expensive bubbler unit for this small lake. From a natural perspective it would be helpful to have an alligator in the lake, because one benefit is to provide that mixing effect as the alligator moves throughout the water. Given the healthy plants and habitat, it would be good to put this lake on the list of candidates for fish stocking should we be able to have funds for this project.