TICKLENAKED POND PRE VS POST ALUM TREATMENT (2014) WATER QUALITY ASSESSMENT SUMMARY: 2019 (MARK MITCHELL, VT DEC)

According to the Lake Score Card water quality trend analyses (Figure 1), Ticklenaked Pond is significantly improving in both summer Lay Monitoring total phosphorus (TP) and Secchi depth (water clarity), while chorophyll-a (algae and/or cyanobacteria) has relatively stabilized back closer to mesotrophic range with some variability. Spring TP has been highly variable, but 2015 through 2018 (post alum treatment) were all under 24 ug/l, which is the standard. Summer TP has also been under 24 ug/l from 2015 through 2018, and VTDEC's Assessment and Listing Methodology uses five years of data to determine if the lake is no longer impaired. Because VTDEC monitoring 2016-2019 also indicates that TP was consistently under 24 ug/l in the euphotic zone (Figure 2), the assessment status for Ticklenaked Pond is being changed in 2020 from impaired to stressed for TP. Ticklenaked Pond is also assessed as stressed for low dissolved oxygen (DO) due to organic enrichment in the sediments, and DO continues to be very low in deeper water (Figure 3). Therefore, watershed and shoreland best management practices should continue to be implemented to ensure applicable water quality standards continue to be met in this ecologically sensitive waterbody.

Figure 1. Ticklenaked Pond Score Card Trends and Status Report 2018

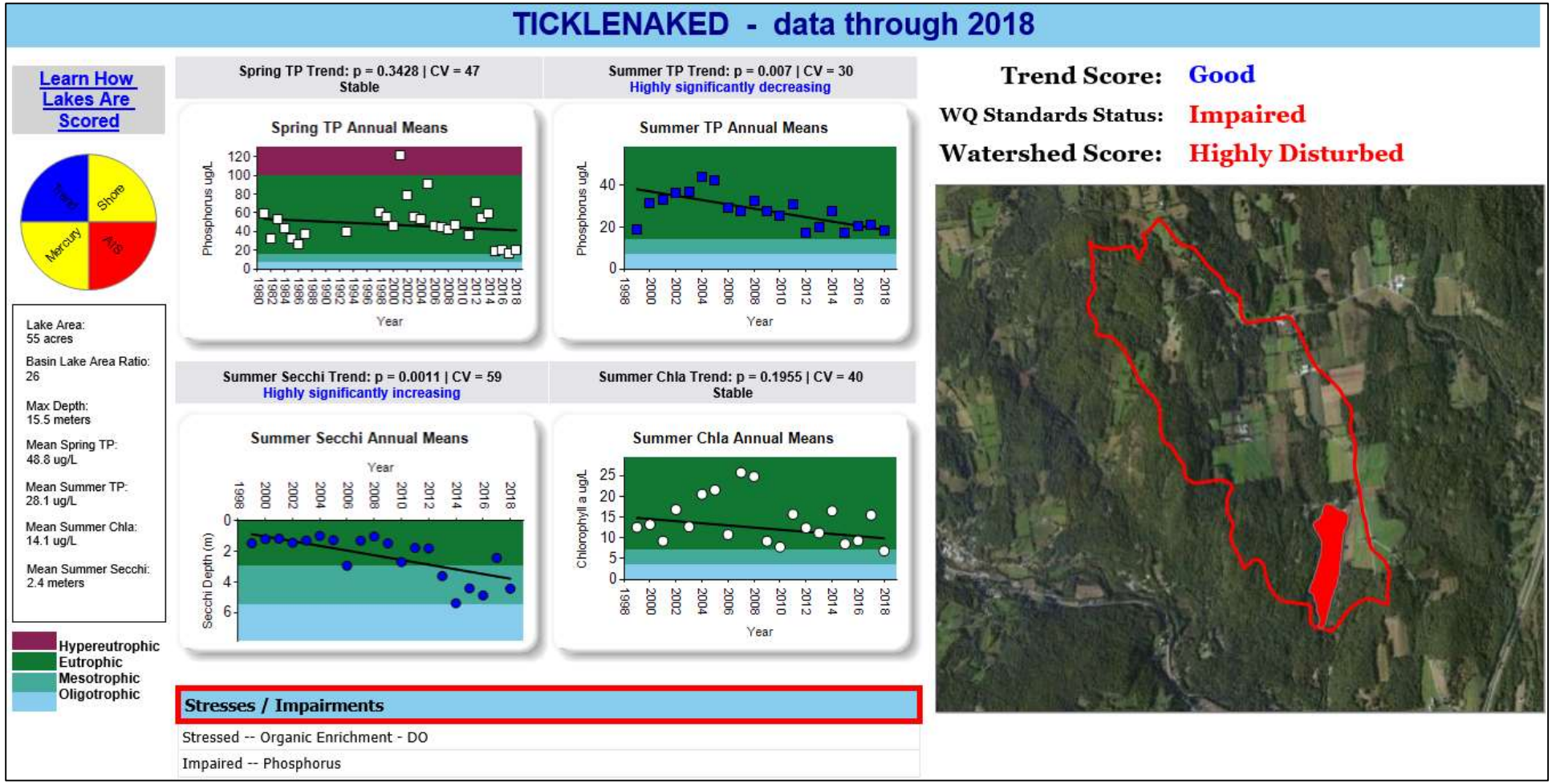

Figure 2. Ticklenaked Pond Station #1 VTDEC TMDL Monitoring 2016-2019: Total Phosphorus Vertical Profiles Post Alum Treatment (2014)

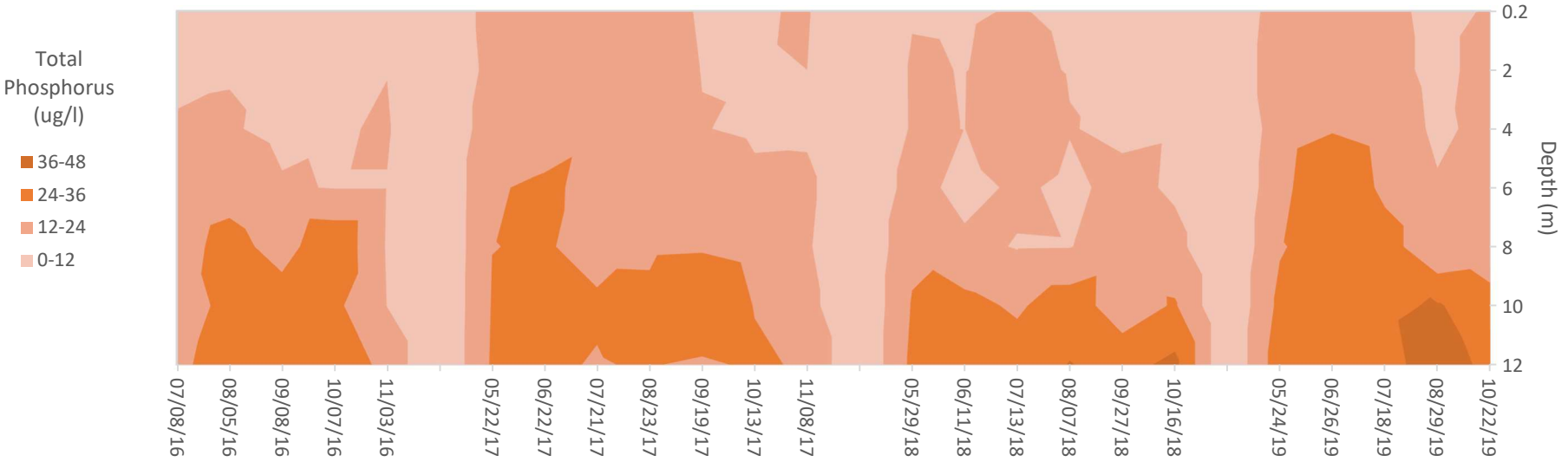

Figure 3. Ticklenaked Pond Station # 1 VTDEC Monitoring May-Oct 2005-2006 and 2014-2019: Dissolved Oxygen Profiles Pre and Post Alum Treatment (2014)