

# 1990 – 2020 PLATTE LAKE VOLUME WEIGHTED TEMPERATURE

This report analyzes temperature data for Big Platte Lake to determine long-term trends over the last 31 years. The Platte Lake Improvement Association and the Platte River State Fish Hatchery have been measuring the Lake temperature at several depths every 2 weeks when weather and ice conditions are safe. Measurements are taken at the surface and at depths of 7.5, 15, 30, 45, 60, 75, and 90 feet. Temperatures from May 1<sup>st</sup> – September 30<sup>th</sup> were selected for analysis for a number of reasons: first, it removes bias from uneven sampling (between years) during ice cover; second, this represents the growing season for most aquatic organisms (algae, macrophytes, fish, etc.); lastly this time period is between spring and fall turnover in the lake. Each data point in the figure below is a volume weighted average (VWA) temperature of the 8 depths from May 1 – September 30 each year. The black vertical lines represent the minimum and maximum VWA temperature for that year. The red line represents the regression trend line which is nearly horizontal and decreases slightly over the 31 year study. Thus, it is observed that on average, the temperature of Big Platte Lake has not significantly changed or decreased slightly over the last 31 years. The VWA for 2020 was 61.5 degrees F which was 1.5 degrees below the 30-year average of 63.0 degrees F.

