

Lake Tashmoo

2019

M.V.C. SAMPLING SUMMARY

Nature of the Lake

Lake Tashmoo is a simple estuary with a single tidal inlet located within the Town of Tisbury. This body of water is used for a variety of activities including recreational swimming, fishing, and boating, and commercial fin fishing and shellfishing. Tashmoo is home to a large mooring field. Eelgrass beds, although stressed in some areas, still remain in the lake. A small freshwater pond, Tashmoo Spring Pond, feeds into Lake Tashmoo through a herring run at the Southern end.

Summary for 2019

This year we observed a slight increase in nutrient pollution. Despite a trend of increasing pigment in recent years, we saw a significant decrease in 2019. This suggests that there may have been less frequent harmful algae activity this year. Be that as it may, it is important to note that an algal bloom was observed at the southern end of the lake at sample stations TASH-SEN and MV-4. The highest quality waters are found near the tidal inlet with a slight decline in quality further away from the inlet. Eelgrass is typically associated with the highest quality waters and estuarine habitat and is found in several spots in Tashmoo, but with higher nitrogen levels in 2019 we've seen coverage is declining and showing signs of stress (e.g. significant epiphytic growth).

2019 Sampling Dates

June 25
July 10, 17, 25, 31
August 7, 15, 20, 27
September 3, 10, 24

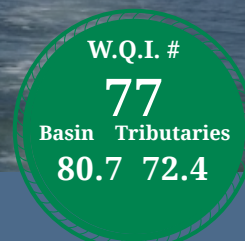


Please forward questions to:
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Fun Fact

We collected **132** liters of water from Tashmoo this summer!

Water quality near the inlet continues to improve; however, nutrient input should continue to be monitored to ensure nitrogen levels remain below the recommended threshold.



Water Quality Index

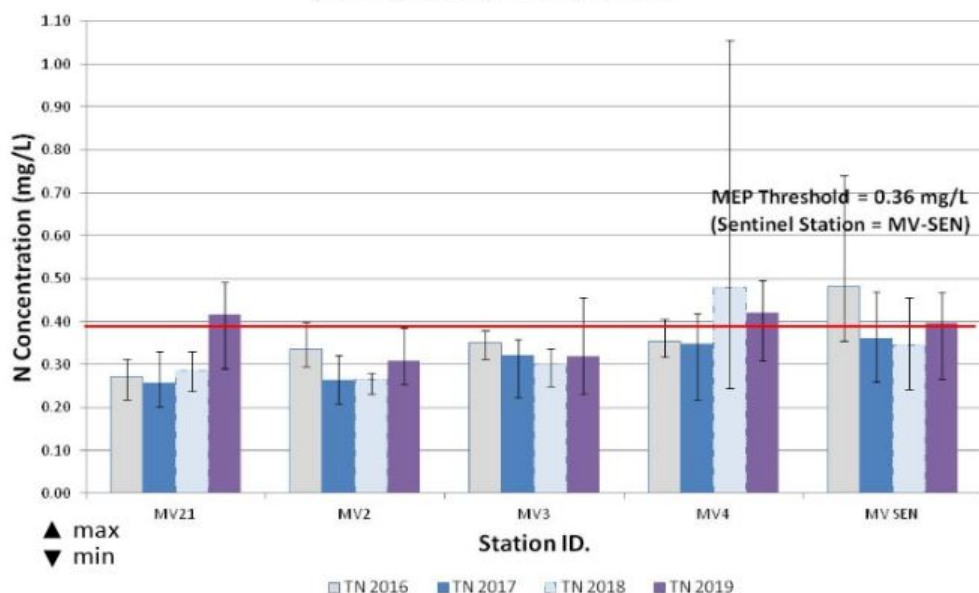
The water quality index score can range from 0 to 100 (low to high), and is based on parameters that are consistently monitored on Lake Tashmoo. Water quality on Lake Tashmoo is moderate to high quality. While Tashmoo had been trending towards lower nutrient pollution we did see a slight increase in nitrogen in the past year.

It is important to continue to consistently monitor the lake to track further water quality trends and changes.

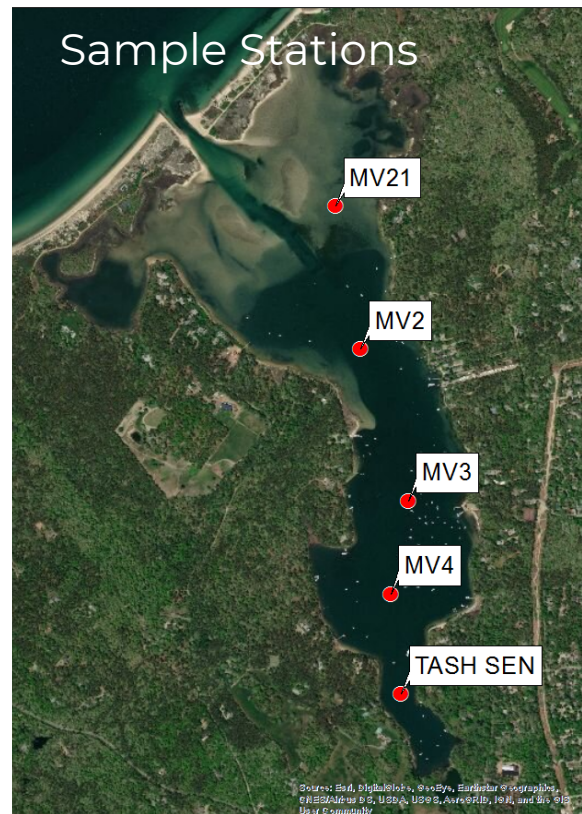
Why Sampling is Important

Field measurements and water samples are collected during the summer months in order to determine water quality of the pond. MVC staff collects water samples as well as a number of indicators of pond health including temperature, oxygen levels, salinity, conductivity, pH, and the time, depth and weather conditions of our sampling. Our sampling protocol is consistent with the Massachusetts Estuaries Project (MEP) which was used to develop the nitrogen threshold. Water samples are tested for several nutrients that in excess can be detrimental to the quality of the water and the systems it supports. Water samples are sent for analysis to the University of Massachusetts at Dartmouth, School of Marine Science and Technology.

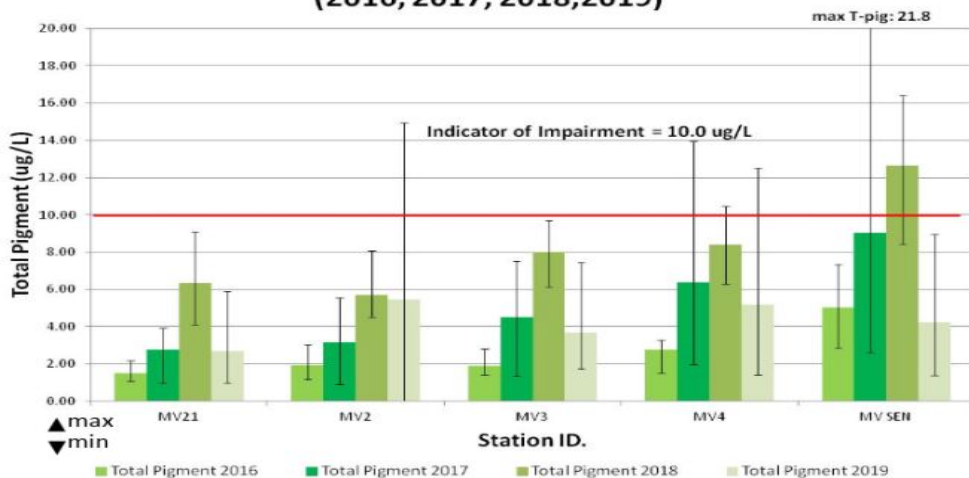
Lake Tashmoo: Total N Gradient (2016, 2017, 2018, 2019)



In past years the inlet limited flushing of the lake, but was opened in the fall of 2018. Current high levels of nitrogen may now be due to increased nitrogen input from surrounding land. Further monitoring should look to determine the sources of nitrogen input.

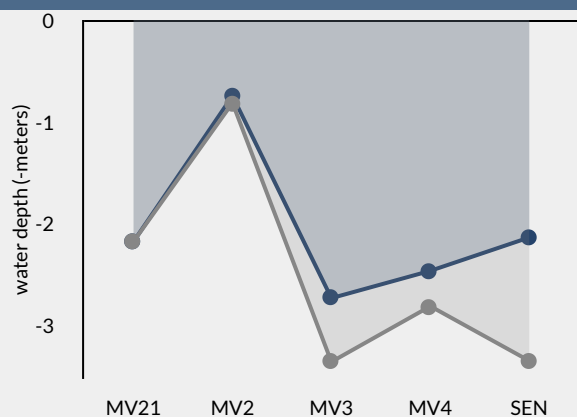


Lake Tashmoo: Total Pigment Gradient (2016, 2017, 2018, 2019)



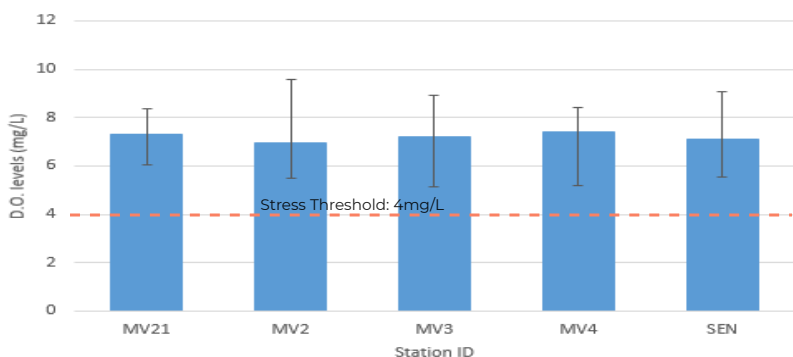
Total Pigment indicates the level of microscopic plant life in the water, which can be influenced by nitrogen levels. In past years high pigment may have been due to the inlet's limited flushing, opening the inlet may have reduced this problem as seen by decreased pigment in 2019.

Water Clarity



Water clarity indicates good flushing at stations in the main basin. Decreased water clarity is seen at sites further from the inlet. The depth of sites MV-3 and TASH-SEN may also contribute to reduced clarity.

Dissolved Oxygen 2019 (mg/L)



Dissolved Oxygen

Dissolved Oxygen (DO) levels are well above the extreme stress threshold of 4 mg/L. Levels above 6 mg/L indicate excellent water quality and a thriving benthic community in the pond. DO concentrations shown here are a snapshot of conditions at the time the sample was taken. DO levels can widely fluctuate with photosynthesis and respiration of plants throughout the day and night. Sites of concern would need a long term monitor device to see degrees of fluctuation throughout the day and night.