

# Sengekontacket 2020

## M.V.C. SAMPLING SUMMARY

### Nature of the Pond

Sengekontacket Pond is a complex estuary located within the towns of Oak Bluffs and Edgartown. Two permanent, constructed inlets connect Sengekontacket Pond to the adjacent Vineyard/Nantucket Sound, allowing tidal exchange. Sengekontacket Pond has two embayments; Trapp's Pond and Major's Cove, because of their distance from the inlets and restricted channels, they do not thoroughly flush. Sengekontacket supports thriving commercial and recreational shellfishing, town aquaculture projects, recreational swimming, and boating.

### Summary for 2020

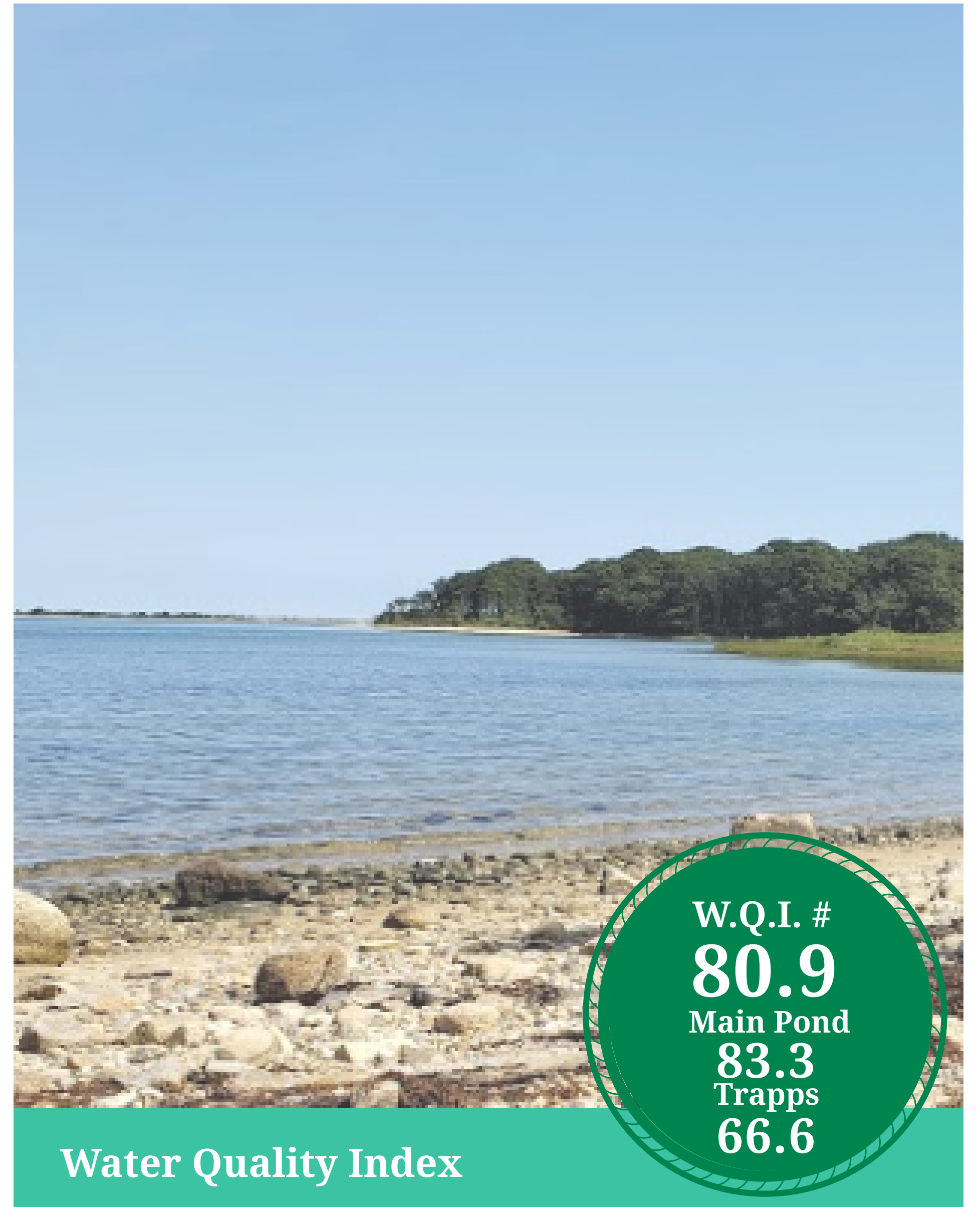
In 2020, Sengekontacket had some notable changes, consistent monitoring of trends should continue. Stations furthest from the inlets, SKT-4 in Major's Cove, SKT-8 near the Boulevard boat launch, and SKT-9 in Trapp's Pond, continue to have high nutrient levels and are impaired. The high nutrient values are caused by excess nutrient input in areas with limited flushing. Commercial and Recreational shellfishing in the main basin is supported and was successful this summer. Eelgrass is typically associated with the highest quality waters and estuarine habitat. Eelgrass is found within Sengekontacket but is declining,

### Why Sampling is Important

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

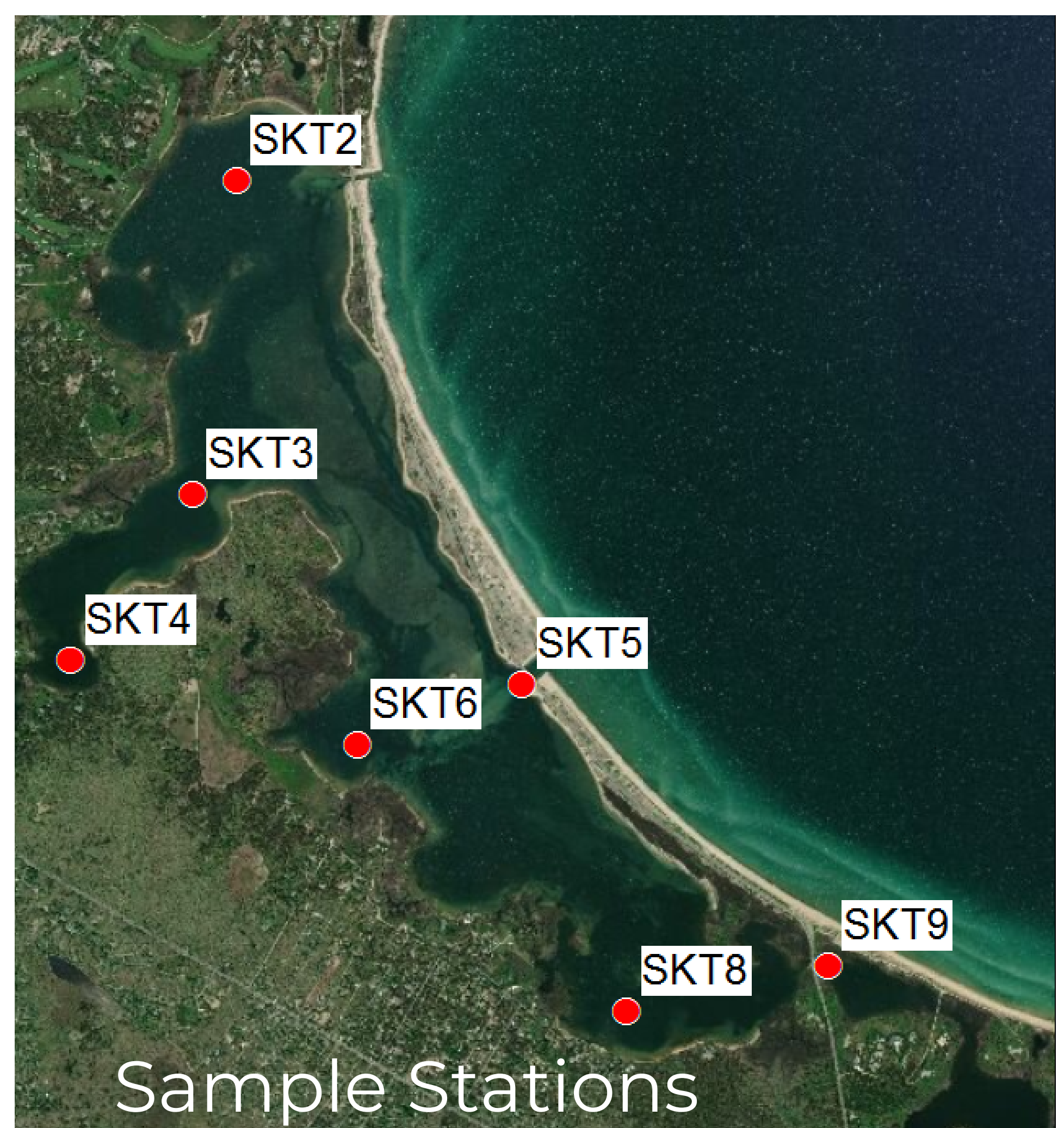


Please forward questions to:  
Sheri Caseau, Water Resource Planner  
Martha's Vineyard Commission (508) 693-3453



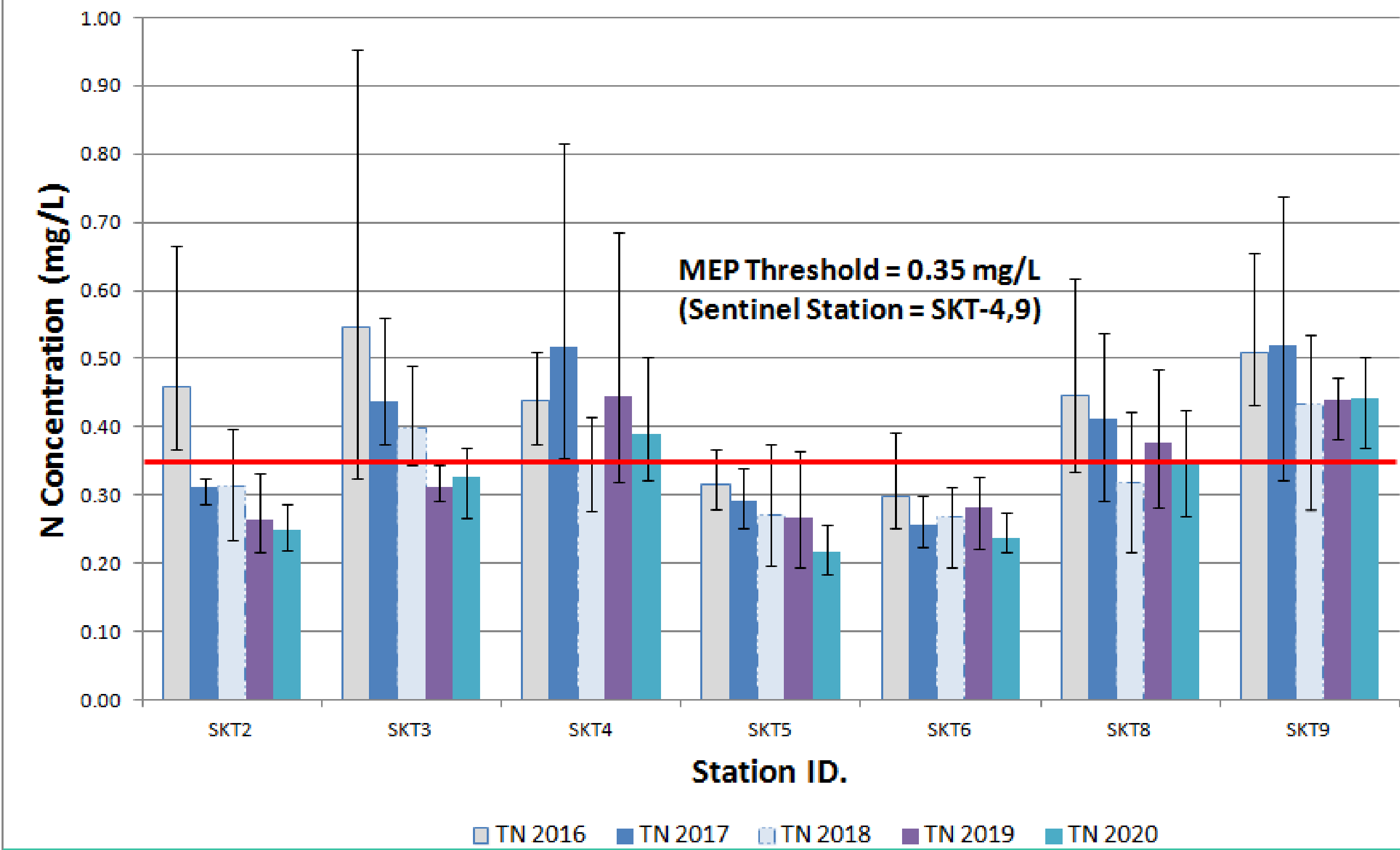
### Water Quality Index

The water quality index score is a tool used to assess the well-being of a pond. It is composed of several parameters including water clarity, oxygen and nutrient levels. The score can range from 0 (low) to 100 (high) and is based on data collected as part of a rigorous sampling schedule. Water quality on Sengekontacket pond is high with good flushing from the ocean, high water clarity, and low nutrient levels. Limited flushing in Trapp's Pond and Major's Cove contribute to lower scores in its tributaries.





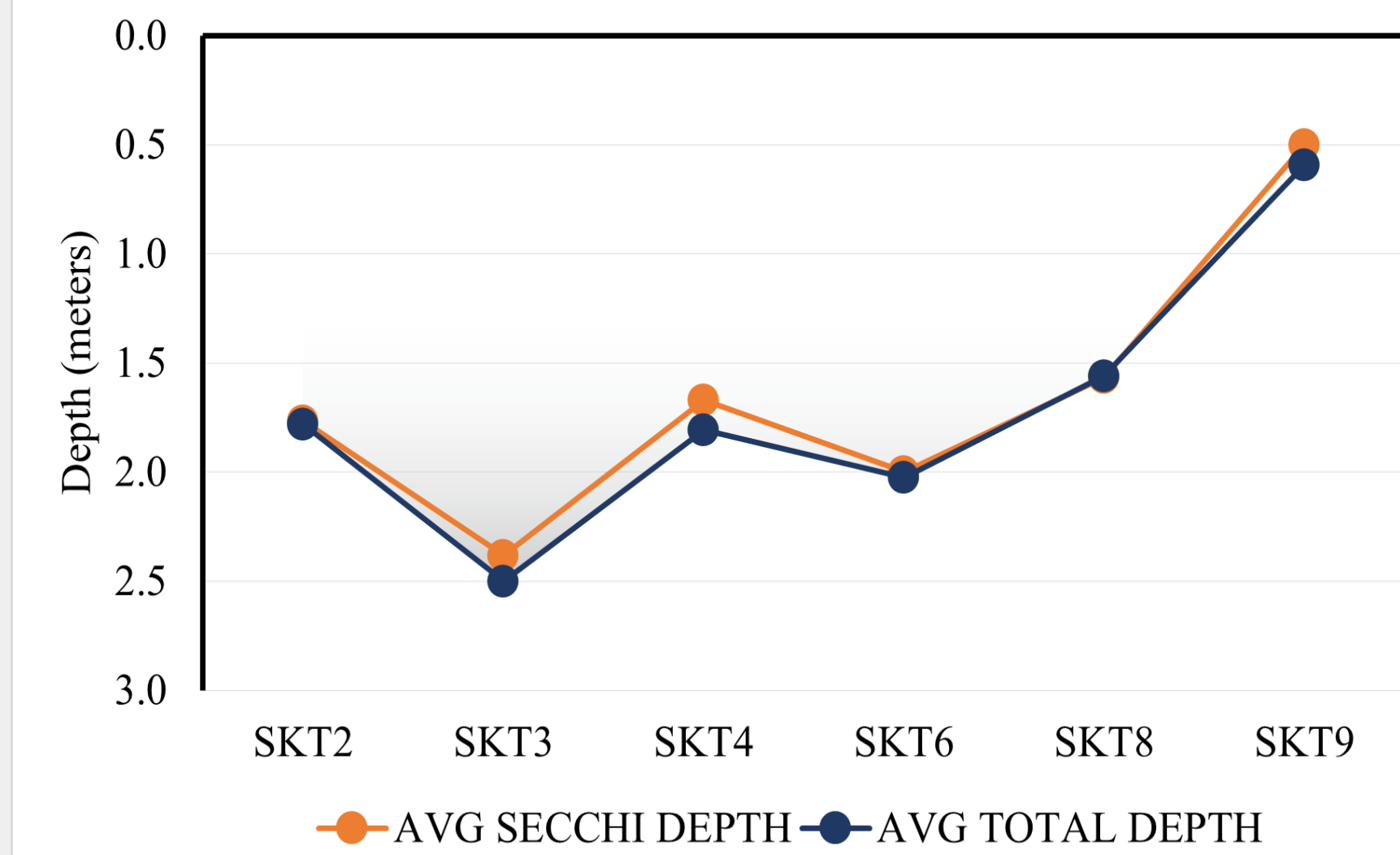
### Sengekontacket Pond: Total N Gradient (2016, 2017, 2018, 2019, 2020)



### Total Nitrogen

Nitrogen is a limiting nutrient necessary for plant, phytoplankton, and algae growth, but it can be harmful in excess. In 2020, SKT-4 and SKT-9 had nitrogen levels that exceeded the MEP threshold value. All other stations in the main basin had levels near or below the threshold.

### Water Clarity

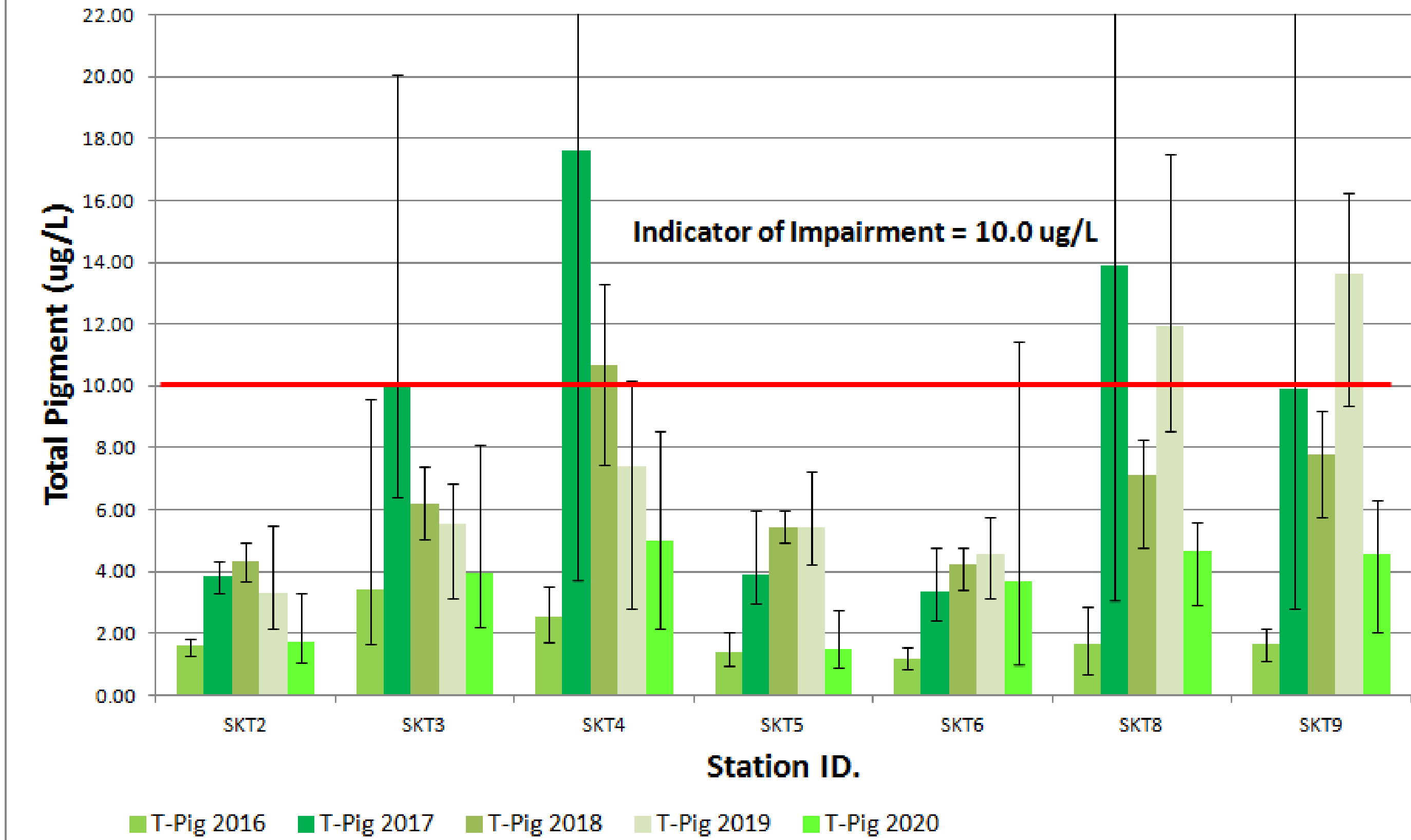


In 2020, water clarity throughout the pond was high, with most sites reaching 100% light penetration within the water column. The only two sites that were less than 100% light penetration, were SKT3 and SKT4.

### 2020 Sampling Dates

- January 13th
- July 6th
- July 27th
- August 11th
- August 25th

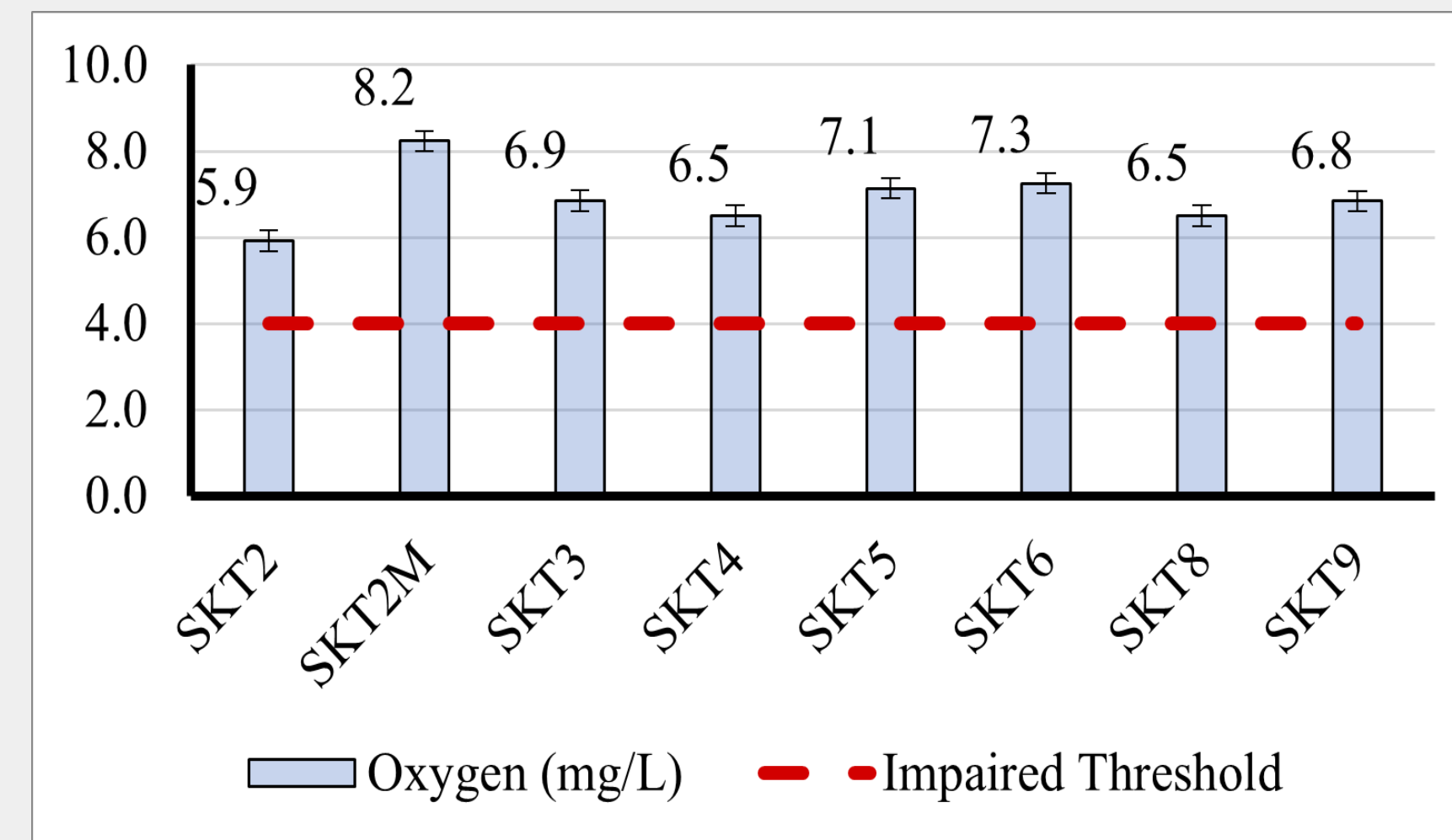
### Sengekontacket Pond: Total Pigment Gradient (2016, 2017, 2018, 2019, 2020)



### Total Pigment

Total Pigment indicates the level of microscopic plant matter in the water, which is often influenced by nitrogen levels. In 2020, pigment concentrations across all sampling stations within the pond decreased compared to the previous year. All stations were below the impairment threshold, with the most significant improvement being at SKT-8 and SKT-9.

### Dissolved Oxygen



In 2020, Dissolved Oxygen (DO) levels within Sengekontacket Pond at all stations were above 6 mg/L. This indicates good water quality and sustainable benthic communities such as eelgrass, shellfish and fin fish in the pond. No remarkable changes were observed compared to previous years of data.

Disclaimer: Dissolved Oxygen (DO) concentrations shown here are a snapshot of conditions when the sample was taken. DO levels can widely fluctuate throughout the day and night due to photosynthesis and respiration of plants.