



YANGON TECHNOLOGICAL UNIVERSITY DEPARTMENT OF CIVIL ENGINEERING
**ASSESSMENT OF SURFACE WATER QUALITY ALONG PAZUNDAUNG CREEK,
 YANGON CITY**

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INTRODUCTION

Rapid urbanization and industrialization can cause a significant threat to the quality of surface water when pollution exceeds the threshold limit. Since there are industrial zones, urban settlements and agricultural sites along the Pazundaung Creek, the water quality of this creek needed to assess whether it is good or bad for domestic, agriculture and purpose of other sectors. In this study, the water quality assessment of this Pazundaung Creek covering the periods from February to May 2019 was carried out.

AIM

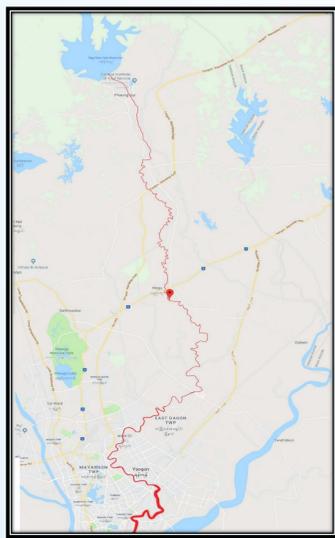
To assess the water quality deterioration due to urbanization and industrialization along the Pazundaung creek.

OBJECTIVES

- To determine the concentrations of some water quality parameters on surface water along Pazundaung Creek.
- To identify the effect of land use activities on the water quality along Pazundaung Creek.
- To evaluate the water quality along Pazundaung Creek by comparing with Malaysia Water Quality Standard.

STUDY AREA

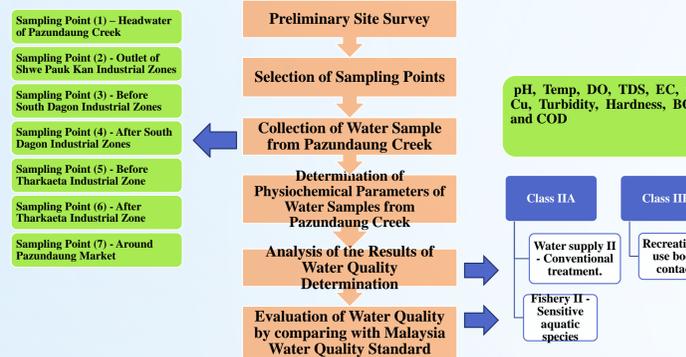
The study area is Pazundaung Creek in Yangon Township and it has 75 miles from North to South. There are seven sampling points along this creek.



- Sampling Point (1) – Headwater of Pazundaung Creek
- Sampling Point (2) - Outlet of Shwe Pauk Kan Industrial Zones
- Sampling Point (3) - Before South Dagon Industrial Zones
- Sampling Point (4) - After South Dagon Industrial Zones
- Sampling Point (5) - Before Tharkaeta Industrial Zone
- Sampling Point (6) - After Tharkaeta Industrial Zone
- Sampling Point (7) - Around Pazundaung Market

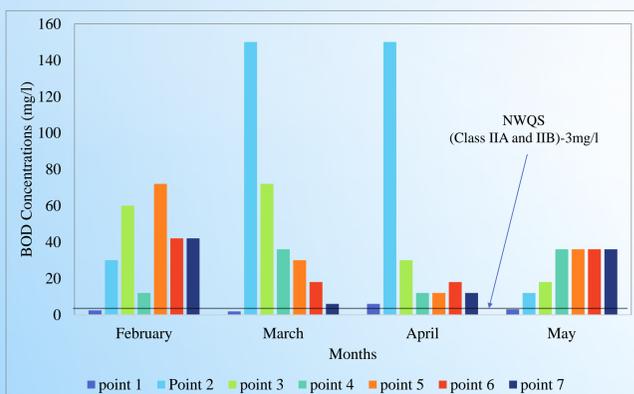
Figure 1. Location Map of Study Area

METHODOLOGY

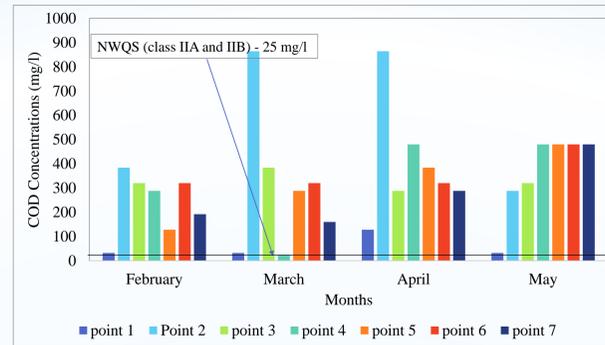


Results and Discussions

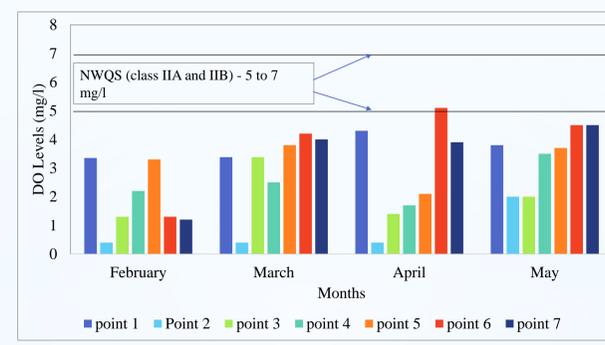
Monthly Variation of BOD Concentrations from February to May 2019



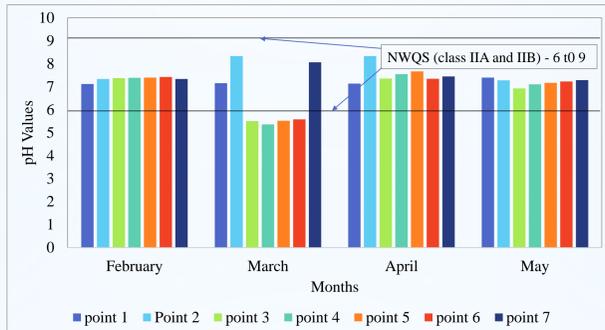
Monthly Variation of COD Concentrations from February to May 2019



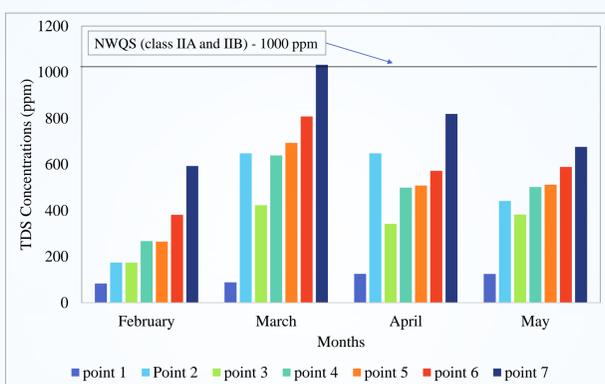
Monthly Variation of DO Concentrations from February to May 2019



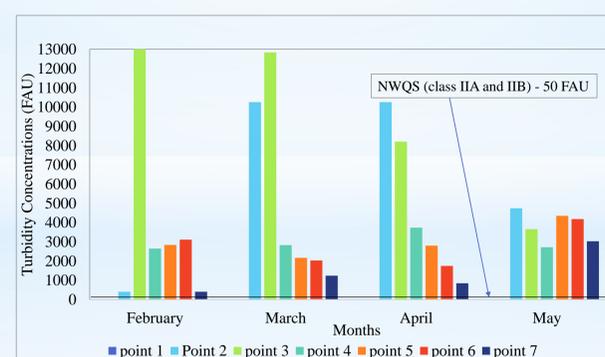
Monthly Variation of pH Concentrations from February to May 2019



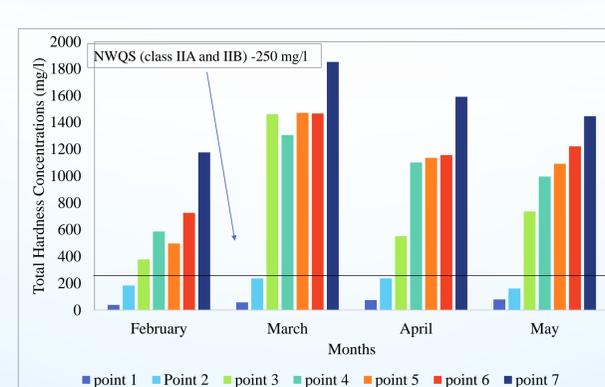
Monthly Variation of TDS Concentrations from February to May 2019



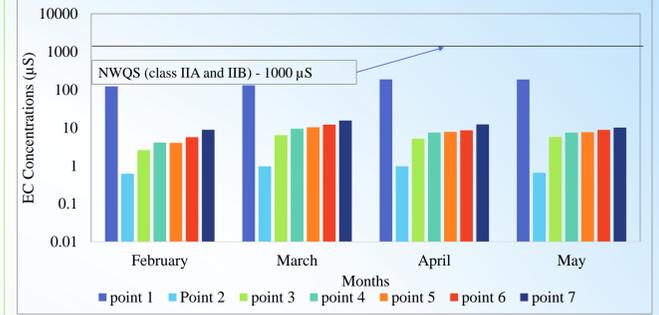
Monthly Variation of Turbidity Concentrations from February to May 2019



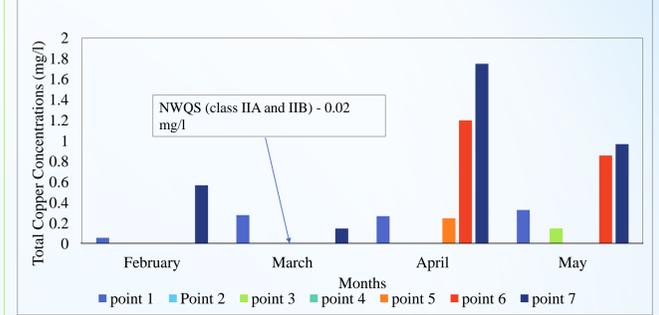
Monthly Variation of TH Concentrations from February to May 2019



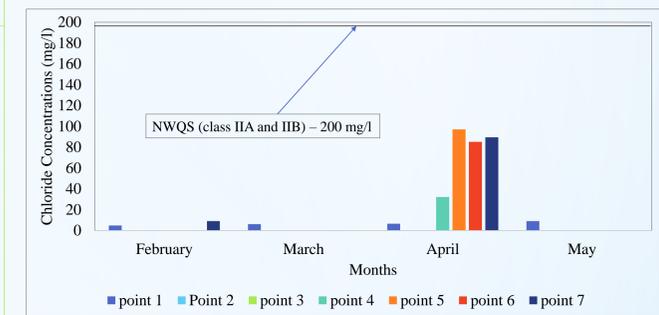
Monthly Variation of EC Concentrations from February to May 2019



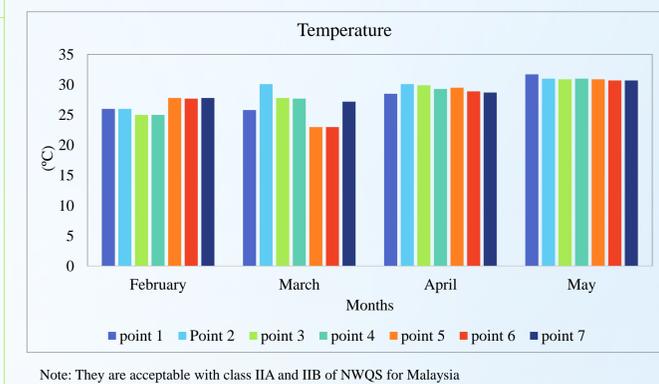
Monthly Variation of Total Copper Concentrations from February to May 2019



Monthly Variation of Chloride Concentrations from February to May 2019



Monthly Variation of Temperature from February to May 2019



Sampling Point (1)

- The concentration of BOD in April, COD and DO for all sampling months cannot meet with standard limits because of the pollutants entered to the headwater of the creek which has the low flow rate and shallow water depth.
- EC had the higher value than the other points for all sampling months due to the presence of dissolved solids such as chlorides and other compounds from the fertilizers, pesticides and animal manures used in agricultural farms near this point.
- The contents of total copper were also greater than the standard limit at this point due to the pesticides and animal manures used in agricultural farms near this point.

Sampling point (2)

- The concentration of BOD, COD and DO for all sampling months cannot meet with standard limits because of wastewater discharged from industrial zone and domestic wastewater from slung quarter near this point.
- Turbidity values did not meet with standard limits due to the wastewater from surrounding industrial zones, residential areas and grit works.

Sampling point (3)

- The concentration of BOD, COD and DO for all sampling months cannot meet with standard limits because of wastewater discharged from industrial zone and domestic wastewater from urban drainage channel near this point.
- Turbidity values did not meet with standard limits due to the wastewater from surrounding industrial zones, residential areas and grit works.
- The total hardness values which did not meet with the standard limit because of the fluctuation of mineral contents such as calcium and magnesium along the flow way of Pazundaung Creek.
- The water sample also had the acidic property in March and these values did not reach within standard range.

Sampling point (4), (5) and (6)

- The concentration of BOD, COD and DO for all sampling months cannot meet with standard limits because of wastewater discharged from industrial zone and domestic wastewater from urban drainage channel near this point.
- Turbidity values did not meet with standard limits due to the wastewater from surrounding industrial zones, residential areas and grit works.
- The total hardness values which did not meet with the standard limit because of the fluctuation of mineral contents such as calcium and magnesium along the flow way of Pazundaung Creek.
- The water sample also had the acidic property in March and these values did not reach within standard range.
- The total copper contents were found at sampling point (5) in April and sampling point (6) in April and May due to the wastewater from industries zone near these point.

Sampling point (7)

- The concentration of BOD, COD and DO for all sampling months cannot meet with standard limits because of wastewater discharged from industrial zone and domestic wastewater from urban drainage channel near this point.
- Turbidity values did not meet with standard limits due to the wastewater from surrounding industrial zones, residential areas and grit works.
- The total hardness values which did not meet with the standard limit because of the fluctuation of mineral contents such as calcium and magnesium along the flow way of Pazundaung creek.
- The total copper contents were greater than standard limit for all sampling months due to the domestic wastewater from urban drainage channel near this point.