

**UNIVERSITI TEKNOLOGI MARA**

**ASSESSMENT OF WATER QUALITY AND HEAVY  
METALS (ZINC, COPPER, TIN) CONCENTRATION IN  
MARINE WATER AND SHELLFISH AT BAGAN  
SG.BULOH, JERAM, SELANGOR**

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**Project paper submitted in partial fulfillment of the requirements for  
the degree of**

**Bachelor in Environmental Health and Safety (Hons.)**


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## Declaration by Student

Project entitled "Assessment of Water Quality and Heavy Metals (Zinc, Copper, Tin) Concentration in Marine Water and Shellfish at Bagan Sg.Buloh, Jeram" is a presentation of my original research work. Whenever contribution of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussion. The project was done under the guidance of En.Razali bin Ishak as Project Supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.)

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## Abstract

### Assessment of Water quality and Heavy Metal (Zinc, Copper, Tin) Concentration in Marine water and Shellfish at Bagan Sg.Buloh, Jeram, Selangor

Nur Atiqah Arshad

**Introduction :** According to K. Ideriah, 2012, sea water contains heavy metals because coastal areas are sites of discharge and accumulation of contaminants. Sources of contaminants to coastal area may come from geological weathering which is natural phenomenon, human excretion, solid waste heaps and animal, industrial processing of ore and metals, the disposal of metals and metal components and leaching of metals from garbage.

**Literature review:** Shellfish refer to mollusks and crustaceans. There are two types of shellfish which are bivalve and grazing. Heavy metal for example, zinc is a lustrous bluish-white metal, brittle and crystalline at ordinary temperatures, but it becomes ductile and malleable when heated between 110°C and 150°C.

**Methodology :** The study location is at Bagan Sg.Buloh, Jeram Selangor. The study design is cross sectional study. The statistical analysis is using Microsoft MS Excel Version 2007 and SPSS Version 18. The sample selection will be using simple random sampling. Instrument used in this study are HANNA Multi-parameter, turbidity meter, digital weighing scale, AA Analyst 400 Perkin Elmer Atomic Absorption Spectrometer (AAS) and rapid One System for confirm test of microbiological test.

**Result :** Mean of pH is 8.4, dissolve oxygen is 86.9%, temperature is 31°C ,turbidity is 115.6 NTU and salinity is 27 Sal of marine water at Bagan Sg.Buloh Jeram. Parameters that are above the acceptable limit are turbidity and salinity.

**Discussion :** United States Environmental Protection Agency, 2012, sources of turbidity come from soil erosion waste discharge, urban runoff, eroding stream banks, large numbers of bottom feeders (such as carp), which stir up bottom sediments and excessive algal growth.

**Conclusion :** Physical properties of water which are turbidity, salinity, temperature, dissolve oxygen and pH are correlate with heavy metal content in water and shellfish.

**Keyword :** Copper, Zinc, salinity, turbidity