

UNIVERSITI TEKNOLOGI MARA

**IMPACT OF RIVER WATER CONTAMINATION ON
AQUACULTURE ACTIVITY AT PAHANG RIVER,
TEMERLOH.**

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(Hons.)**

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Declaration by Student

Project entitled "Impact of River Water Contamination on Aquaculture Activity at Sg.Pahang River, Temerloh" is a presentation of my original research work. Wherever contributions of other are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under guidance of Associate Professor Madya Rodziah Ismail as Project Supervisor and Mr. Abd. Rahim Bin Dal as Co-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).

Student's Signature:

A handwritten signature in black ink, appearing to be 'Nurul Hidayah', written over a horizontal dotted line.

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Abstract

Impact of River Water Contamination on Aquaculture Activity at Pahang River, Temerloh.

Tun Nurul Hidayah Binti Abd Rashid

Introduction: Sungai Pahang is the main water body that is used for water supplies, transportation, aquaculture, food sources and other uses. Once it's been contaminated, human and aquatic life is the most affected either directly or indirectly. Some of toxic elements found in the river are heavy metal that can pollute the river and accumulate in aquatic life. **Methodology:** The study was conducted at Pahang River Temerloh, Pahang. The study design of this study is cross-sectional study. Atomic Absorption Spectrometer (AAS) was used for measured the results of heavy metal in fish and river water. The questionnaires were used to obtain the socio-demographic data among respondents. A statistical analysis that is statistical package for the social science (SPSS) version 17.0 was used in this study. **Results:** The results of physical hazards showed no significance different ($p>0.05$) when compared between three sampling point for suspended solids and temperature, where suspended solids ($p>0.735$), and temperature ($p>0.748$), while pH is significantly different between sampling point, where pH ($p<0.001$). Chemical hazards results in water showed lead (Pb), and mercury (Hg) have no significance value ($p>0.05$) where Pb is ($p>0.379$) and Hg is ($p>0.254$), while Cd is significantly different with p value ($p<0.006$). Chemical hazards results in fish showed that there are significantly different ($p<0.05$) for Cd, $p<0.001$ and Hg, $p<0.001$, while Pb have no significant different ($p>0.05$) which is $p>0.317$. Metal levels in fish were significantly higher than the levels in water, indicating bioaccumulation. **Conclusion:** The reading of analysis quite low because of the weather (rainy season and flooding at certain places). However, the extrapolation study in this project indicate that the weekly intake of heavy metals in fish from aquaculture may constitute a health hazard for consumers because the values were exceed the tolerable weekly intake of the metal recommended by WHO, 1978. It is therefore suggested that regular monitoring of heavy metals in fish tissues is essential in order to prevent excessive build-up of these metals in the human food chain.

Keywords: river contamination, heavy metal accumulation, fish, tolerable weekly intake, hazard index