MONASH
ENGINEERING

MONASH University

Faculty of Engineering

Summer Research Program 2021-2022

Project Title: Detecting and identifying illegal discharge in the stormwater network by using innovative devices.

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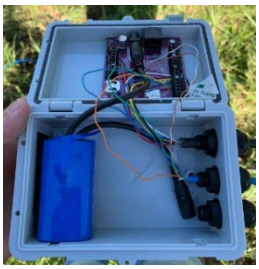
Objective

Illegal discharge in the stormwater network will cause ecosystem degradation in the natural receiving water body. To protect the urban water system, it is important to detect the illegal discharge and understand the source of the pollutant. Therefore, a framework needs to be developed to link some surrogates to the pollutant by using innovative low-cost devices.

Project Details



From the historical observation, Stony Creek showed abnormal water quality issue such as a large amount of bubbles on the water surface. The problems have a high possibility to link to the illegal discharge in the stormwater network. Therefore, Stony Creek project can be a case study to develop a framework for illegal discharge detection and identification.
Different kinds of innovative devices will be applied in the stormwater drains to detect and the illegal discharge. Low-cost BoSL sensors such as BoSL Depth, EC and temperature sensor and BoSL turbidity sensor will be installed with high spatial resolution. Innovative Low-cost pump and passive samplers will also be used for taking samples for further source tracking.
Multiple skills will be obtained!
Students who work with this project with work with some innovative sensors, after this project, they should be familiar with sensor design and testing, programming, calibration and installation. Also, this project provides opportunities for fieldwork, students will learn how to solve real engineering problems in the field and improve their manipulative ability.

Prerequisites

No