



Hsuan-Cheng Lu

BSc (Biomedical Engineering), MEnv

hsuan-cheng.lu@griffithuni.edu.au

orcid.org/0000-0002-4139-2368

https://www.researchgate.net/profile/Hsuan_Cheng_Lu

Summary

Microplastic pollution is concerning because it is widespread in aquatic environments and there is growing evidence of negative biological effects. Little information exists regarding microplastic pollution in urban wetlands. Urban wetlands can become 'sinks' for many of the pollutants carried in stormwater runoff, which accumulate in wetlands and reach hazardous concentrations over time. Based on the result of my previous research, microplastic pollution is a common occurrence in urban wetlands which highlighted that general urbanisation, rather than specific types of urban land use, were associated with microplastic pollution and urban stormwater is a major contributor of microplastics to aquatic environments.

This project aims to investigate some important questions raised:

1. Are there spatial differences in where microplastics are deposited in wetland sediments related to stormwater inflow areas and other wetland structures (e.g. reed beds)?
2. Are common sediment dwelling biota in urban stormwater wetlands interacting with the microplastics (such as through ingestion) and is this impacting the health of these biota?
3. Other possible things might be food chain effects: if Chironomidae are found to contain microplastics, will their predators be exposed to microplastics from preying on them?

Research Expertise

- Microplastics
- Ecology assessment
- Spatial Analysis with ArcGIS