

# Water Pollutants Detector “RoBoat”

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## Introduction:

Pollutants are classified majorly as organic and inorganic pollutants. They cause severe damage to the aquatic ecosystem and human life.

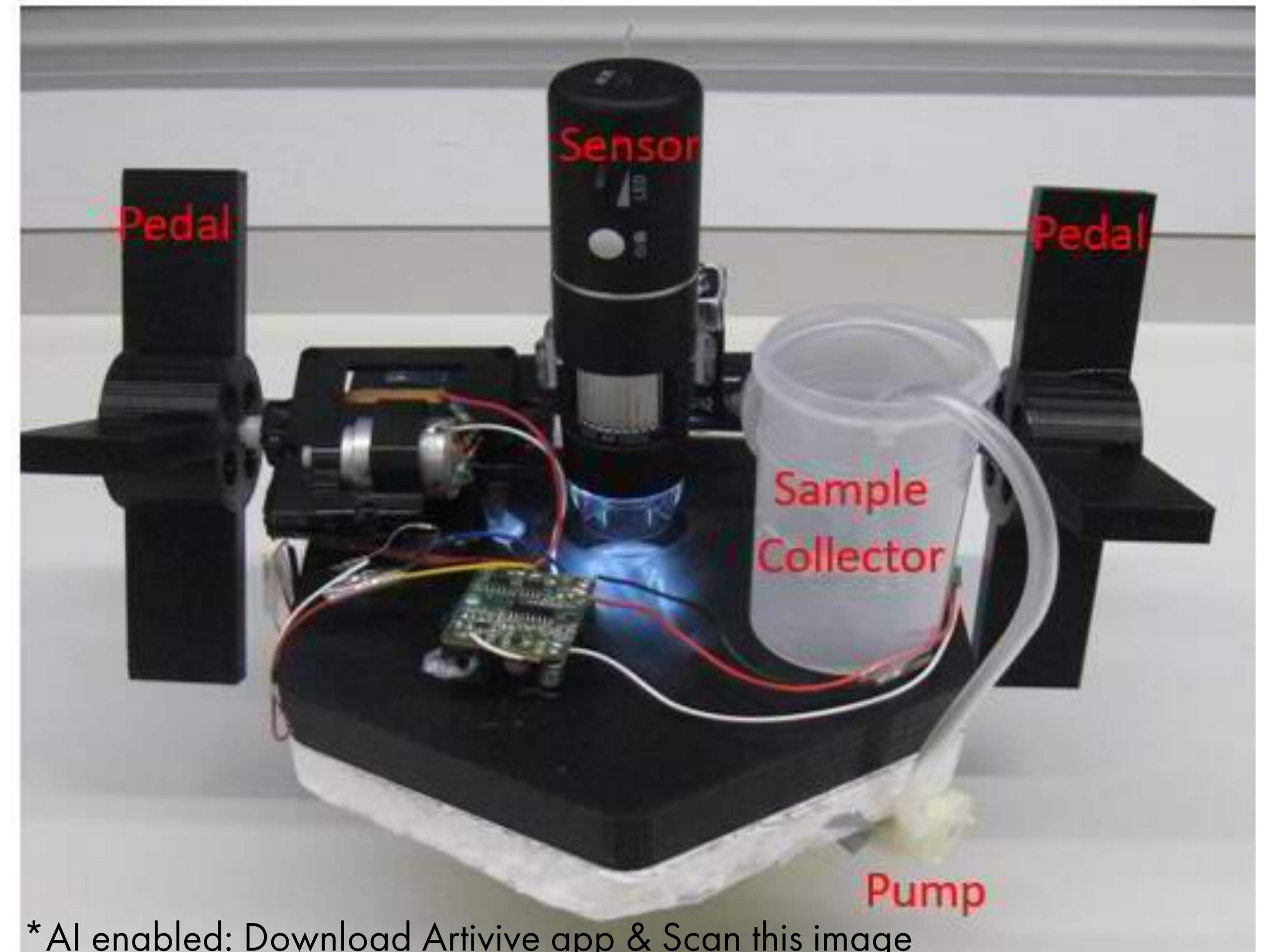
**Problem Statement:** Can pollutants be detected in real time at their source?

**Objective:** Real time detection of different sizes of water pollutants at the source on phone or tablet and to collect water samples for lab test

## Methodology:

Designing	Brainstorming & Rough Sketch
Modelling	3D-Modeling on Autodesk Inventor
Printing	3D Printing material used : Plastic
Detection	Max See WIFI Microscope
Image Processing	Qu Path Software

\* AI enabled: Download Artivive app & Scan this image



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Fig .1. RoBoat

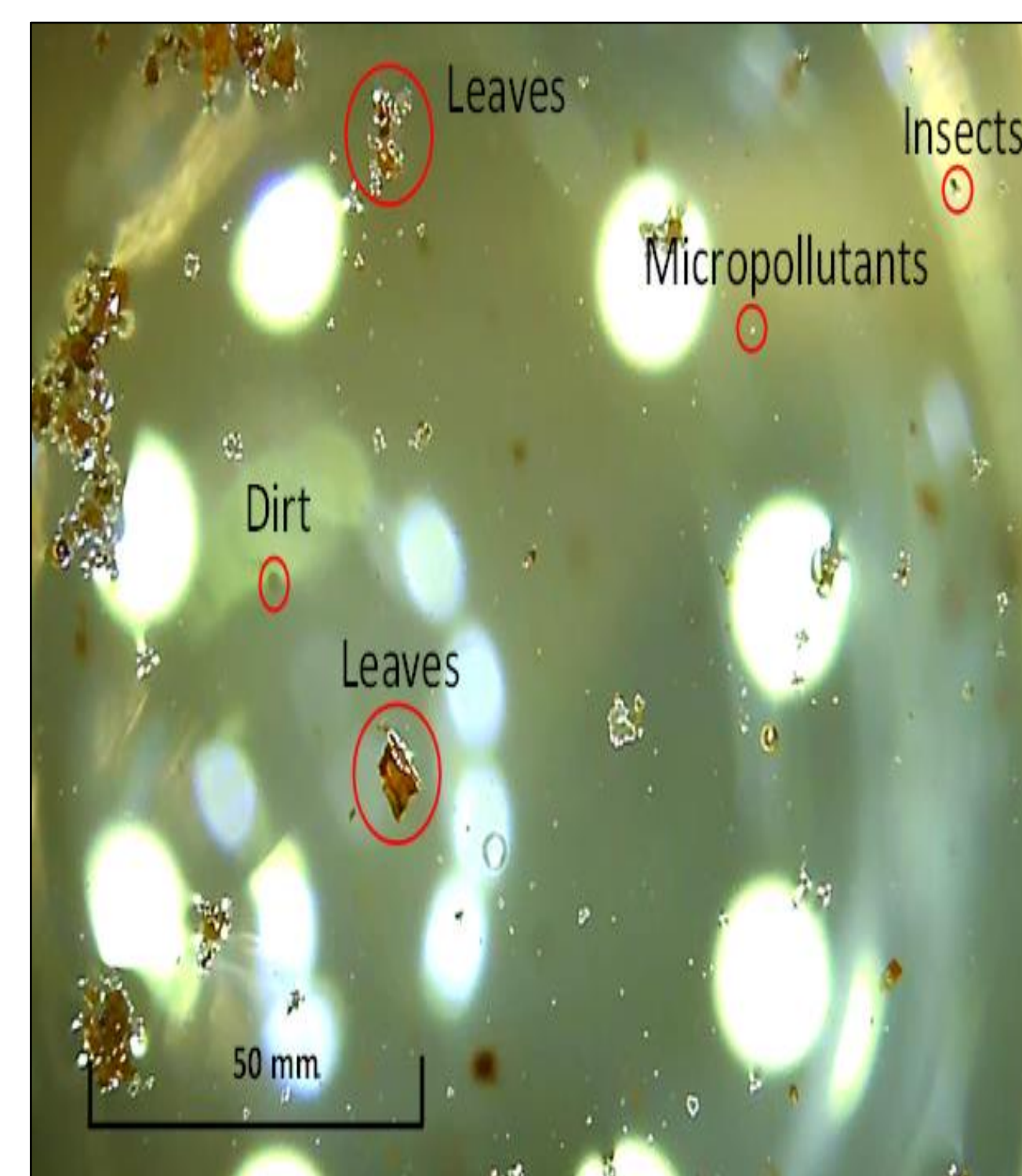


Fig .2. Manual Detection at source

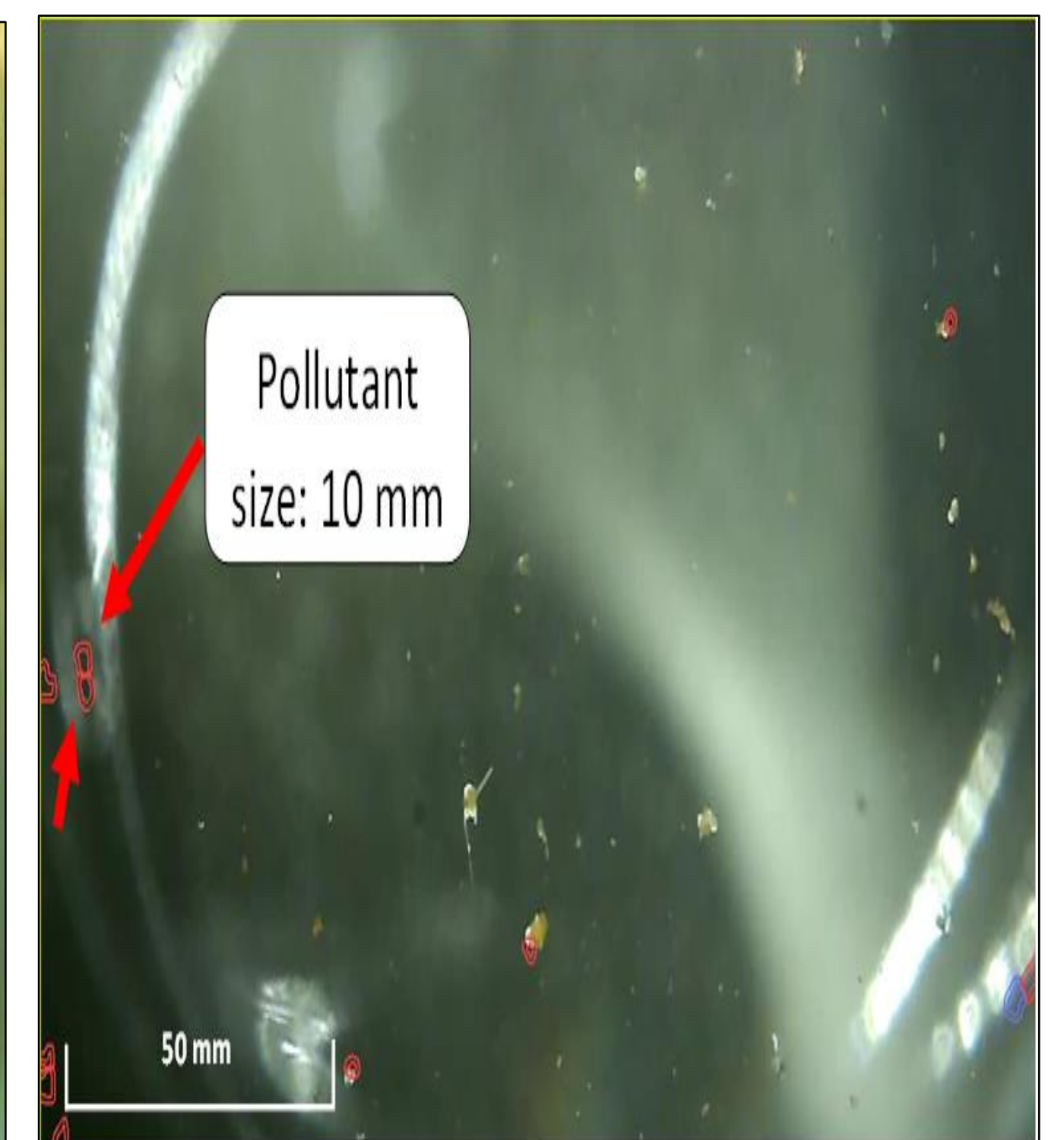
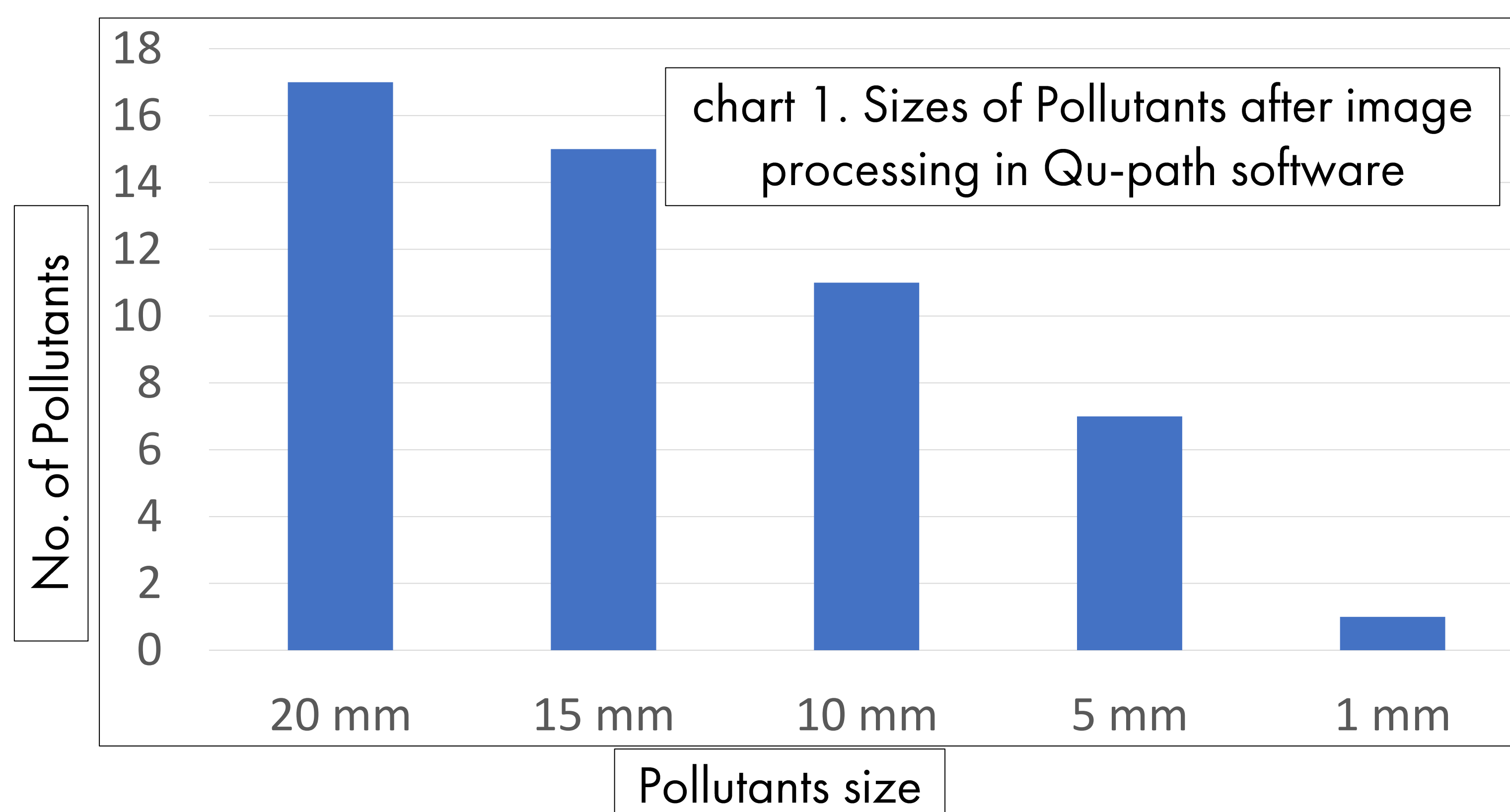


Fig .3. After Image Processing in Qu Path

## Results:



## References:

- [1] Blevins, M. G., Allen, H. L., Colson, B. C., and others (2021). Field-Portable Microplastic Sensing in Aqueous Environments: A Perspective on Emerging Techniques. *Sensors*, 21(10), 3532. <https://doi.org/10.3390/s21103532>
- [2] Li, Y., Wang, X., Zhao, Z., Han, S., & Liu, Z. (2020). Lagoon water quality monitoring based on digital image analysis and machine learning estimators. *Water Research*, 172, 115471. <https://doi.org/10.1016/j.watres.2020.115471>
- [3] Kniggendorf, A.-K., Wetzel, C., & Roth, B. (2019). Microplastics Detection in Streaming Tap Water with Raman Spectroscopy. *Sensors*, 19(8), 1839. <https://doi.org/10.3390/s19081839>

