



BUTUANON RIVER DOWNSTREAM

FACTSHEET • APRIL 2021

BUTUANON
RIVER
IMPROVERS



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The Butuanon river is a 23-kilometer stretch that runs from the mountainous regions of Cebu City down through the city of Mandaue. The river leads out to the Mactan Channel situated between Mandaue City and Lapu-Lapu City. This catchment has a total area of about 62.5 square kilometers. Although less than 20% of the whole catchment is situated in Mandaue City, the majority of the 7.5 kilometer span of Butuanon river running through is urban and built-up land with a blend of industrial, commercial, and residential structures.

Butuanon River used to be a fishing ground with water that was full of life. The river also became a source of livelihood and helped place food on the table for the settlers in the area. There were children who used to play with their paper sailboats in those areas. Older folks also claimed that the river was a picnic site for families.

At present, the river is considered to be one of the most polluted rivers in Cebu. Due to urbanization in Cebu and Mandaue city, an influx of people settled into the area with their families. Moreover, with the socio-economic problems in the area, multiple informal settlements have formed alongside the river. As informal settlers grew, space around the river lessened. Since the majority of informal settlers do not have septic tanks, their waste often ends up in the river. In addition, companies habitually flush their untreated wastes into the waters. Slowly, the water became polluted and murky, even developing foul odors in certain locations. It was as if it became a flowing dumpsite for people to throw their waste in. However, the river is not beyond saving. With proper care and maintenance, the river may be restored to its former glory. Pure, clean, and pristine waters in the Butuanon river can still be made a reality.

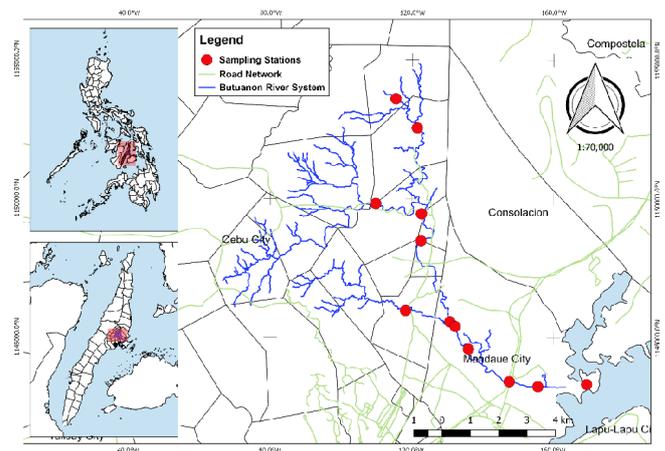


Figure 1. Location Map of Butuanon River and the Sampling Stations

PROBLEMS



POLLUTION



INFORMAL SETTLEMENTS



FLOODING



INCONSISTENT WASTE COLLECTION



POOR WATER QUALITY

WATER QUALITY

Currently, the Butuanon river has 12 monitoring stations being monitored by the Environmental Management Bureau in Region 7 (EMB 7). Since the year 2000, Butuanon river has been classified as a Class D River and is the first Water Quality Management Area in Region 7. Class D water bodies are only approved for use as navigable waters.

Table 1. Summary of Water Quality Monitoring Results of The Butuanon River for The First Quarter of Year 2021 (Source: DENR EMB 7)

PARAMETERS	AVERAGE	CRITERIA FOR GOOD WATER QUALITY	REMARKS
Dissolved Oxygen	4.09 mg/L	≥ 2 mg/L	PASSED
Biochemical Oxygen Demand	84.41 mg/L	< 15 mg/L	FAILED
Total Suspended Solids	74.42 mg/L	< 110 mg/L	PASSED
Fecal Coliform	1,723,798 /100 mL	< 400 MPN/100 mL	FAILED

WASTE IN THE BUTUANON RIVER

As of 2020, DENR-EMB-7 identified 66% of the total pollution load within the catchment to be coming from domestic sources. This is much more alarming considering that only a small percentage of the total catchment area runs through urban land areas.

Figure 2. Pollution Load Source Distribution (Source: DENR EMB 7)

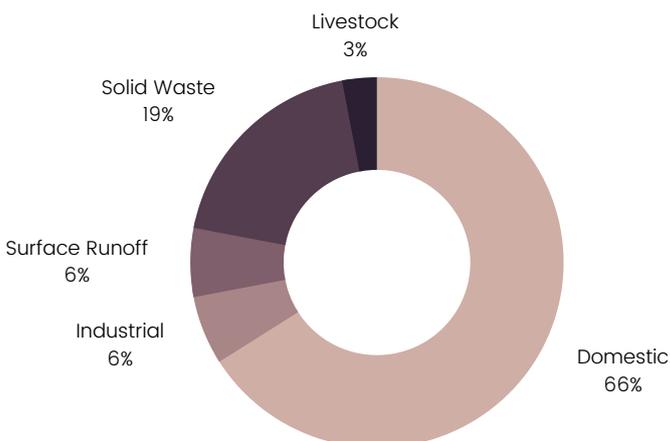
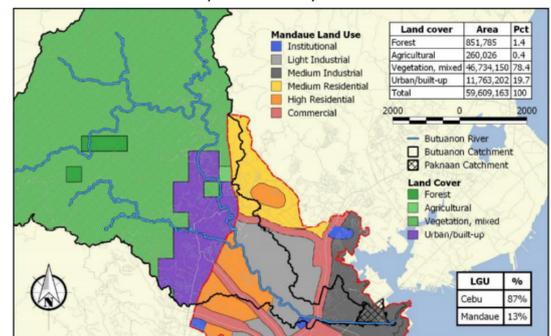


Figure 3. Butuanon Catchment Showing Land Cover (Source: Mandaue City LGU - Hydronet Consultants, Inc.)



INFORMAL SETTLEMENTS

According to Picardal and Marababol (2012), findings from their survey of 90 riverside households across 9 different barangays showed that 74.4% of respondents admitted to having dumped solid wastes into the Butuanon river. The types of solid waste reported to have been dumped into the river by the riverside communities ranged from plastics, papers, and diapers to human, vegetable, and livestock wastes.

POLICIES



REPUBLIC ACT NO. 9003: ECOLOGICAL SOLID WASTE MANAGEMENT ACT OF 2000

Ensure the proper segregation, collection, transport, storage, treatment and disposal of solid waste through the formulation and adoption of the best environmental practice in ecological waste management excluding incineration



REPUBLIC ACT NO. 6969: TOXIC SUBSTANCES AND HAZARDOUS AND NUCLEAR WASTES CONTROL ACT OF 1990

Aims to regulate, restrict or prohibit the importation, manufacture, processing, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment; to prohibit the entry, even in transit, of hazardous and nuclear wastes and their disposal into the Philippine territorial limits for whatever purpose; and to provide advancement and facilitate research and studies on toxic chemicals



REPUBLIC ACT NO. 9275: PHILIPPINE CLEAN WATER ACT OF 2004

Aims to protect the country's water bodies from pollution from land-based sources (industries and commercial establishments, agriculture, and community or household activities)

PRESIDENTIAL DECREE NO. 1586: PHILIPPINE ENVIRONMENTAL IMPACT STATEMENT SYSTEM

Attain and maintain a rational and orderly balance between socio-economic growth and environmental protection

CITY ORDINANCE NO. 10-2006- 372: ECOLOGICAL AND SOLID WASTE MANAGEMENT ORDINANCE

Imposes stiffer penalties and fines for improper solid or liquid waste management and disposal and for other purposes

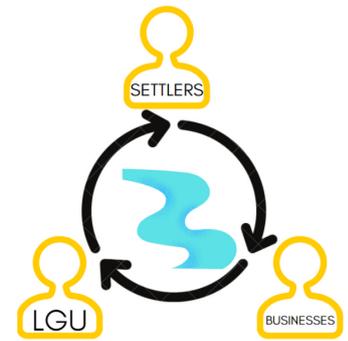


REPUBLIC ACT NO. 9512: NATIONAL ENVIRONMENTAL AWARENESS & EDUCATION ACT OF 2008

Promotes environmental awareness through environmental education and for other purposes.



USERS AND STAKEHOLDERS OF THE RIVER



The primary stakeholders are the settlers that live nearby the river whose waste management practices are key to reducing pollution in the area. Secondary stakeholders are the various establishments nearby the river. Additionally, the active participation of LGUs, other relevant government departments, private benefactors, and corporate benefactors are crucial in the enhancement of the river's resource management through enforcing policies, facilitating management of the programs, continuing IECs, and providing funds and materials necessary for the different plans to actually be carried out.

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