



GUADALUPE RIVER – DOWNSTREAM FACT SHEET

A. LOCATION OF THE RIVER

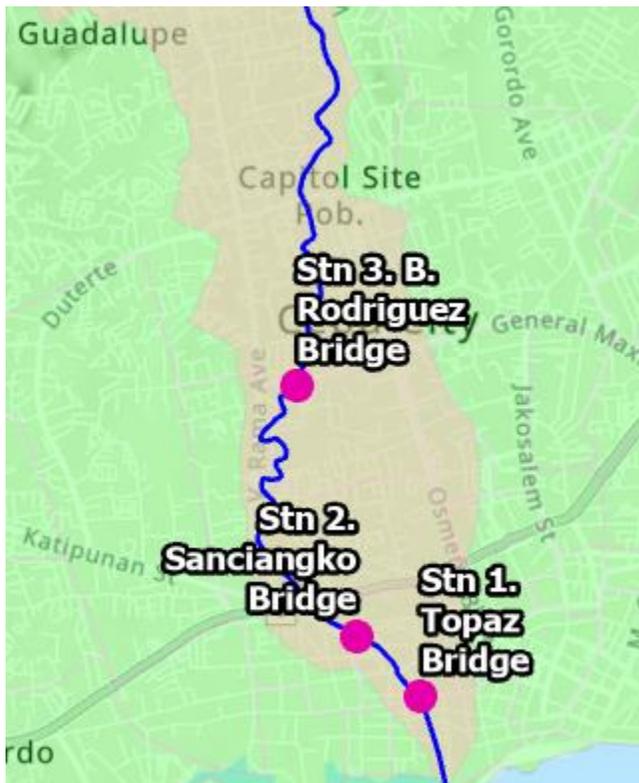
Guadalupe, Cebu City, 6000, Cebu, Philippines

Guadalupe River - Downstream:

From B. Rodriguez Bridge (Station 3)

To Topaz Bridge (Station 1)

B. MAP OF GUADALUPE DOWNSTREAM



C. INTRODUCTION TO RIVER PROBLEMS

According to Cebu City Environment and Natural Resources Office (CCENRO), the river is the most polluted river in Cebu City^[1]. It is classified as a type C river by the DENR in the year 2000, which means that it is not fit for drinking and bathing with minimal to zero signs of life^[2].

Furthermore, it was found by the Department of Environment and Natural Resources- Environmental Management Bureau Region 7 (DENR- EMB Region 7) that as for the Year 2020, some parameters such as the dissolved oxygen (DO), biochemical oxygen demand, and fecal coliform all failed to meet the required criteria for it to be classified as having a “good water quality”. However, the total suspended soils, which is one of the four parameters measured during the study, passed the criteria for good water quality. These results further reinforce the fact that the Guadalupe River cannot sustain any marine life within its waters and cannot be considered as potable.

D. ISSUES ABOUT THE RIVER

The main problem regarding the downstream area of the Guadalupe River is the accumulation of waste due to the increasing amount of illegal waste disposal in all parts of the river. The riverbank is used as a dumpsite by the informal settlers living along the riverside. In addition, septic waste is being disposed to the river through pipelines that originated from the households of surrounding barangays^[3]. Citizens have been issued with warning notices to stop the unhealthy practice, but continue to do so, thus implying a weak implementation of existing laws and policies that protect the river.

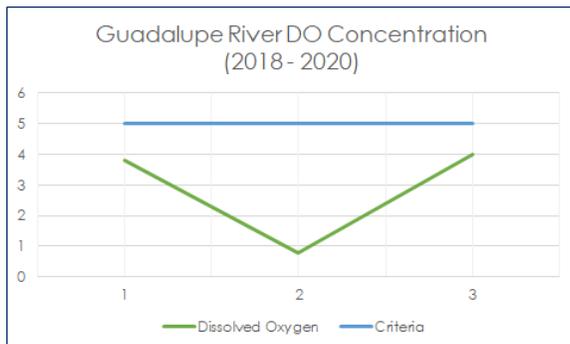
E. LEVEL OF POLLUTION

Risk Assessment of Guadalupe Downstream^[4]

Water samples were taken from a flowing part the sides and the middle of Pahina Central near the Taboan Market. The Dissolved Oxygen level in Guadalupe Downstream is way below 2 ppm which is the critical level that can kill fish within 2 hours.

Ammonia is the reduced form of nitrogen in water bodies which have poor DO levels. Guadalupe Downstream has very high ammonia level of 10.29 ppm. This shows a possible risk to freshwater fishes and the ammonia level is beyond the tolerable limit prescribed by DENR at 0.5 ppm.

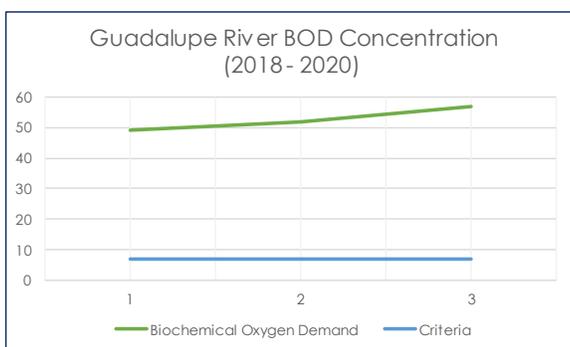
Guadalupe River DO Concentration 2018-2020



Description	2018	2019	2020
DO	3.82	0.78	4
Criteria	5	5	5

Adequate dissolved oxygen is necessary for good water quality. As dissolved oxygen levels in water drop below 5.0 mg/l, aquatic life is put under stress. From the data, the river have insufficient amount of DO.

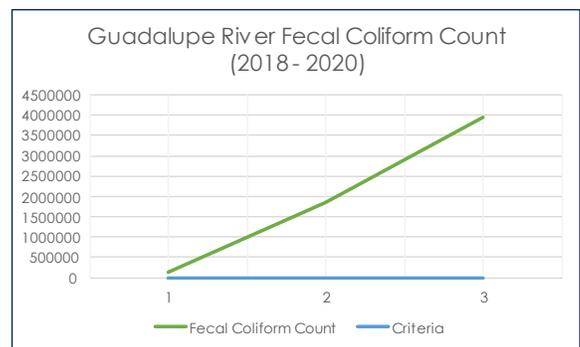
Guadalupe River BOD Concentration 2018-2020



Description	2018	2019	2020
BOD	49.25	52	57
Criteria	7	5	5

BOD represents the amount of oxygen consumed by microorganisms while they decompose organic matter. Guadalupe River surpass the maximum limit of BOD. High BOD makes organisms become stressed, and die.

Guadalupe River Fecal Coliform Count 2018-2020



Description	2018	2019	2020
Fecal Matter	129614	1844805	3942478
Criteria	200	200	200

Fecal coliforms are the group of the total coliforms that are considered to be present specifically in the gut and feces of warm-blooded animals. The data is very alarming because it way surpassed the limit which is highly toxic.

F. TYPES OF POLLUTION

Several types of pollution can be found in the downstream area of the Guadalupe River. Solid waste, domestic wastewater, and sewage are some of the most common pollutants, which are caused by utilizing the river as a dumpsite. Furthermore, from the recent data presented by the Cebu City local government units, the river is highly contaminated of fecal coliform bacteria caused by the fecal matter present in the sewage thrown in the river. Ammonia, a toxic chemical, is present in the river as well.

G. RIVER ACCIDENT

Overflowing of River [5]

After intense rain last September 15, 2015, Guadalupe River overflowed. The rivers that overflowed were from Buhisan to Kinalumsan and Sapangdaku to Guadalupe. The overflowing of the river, around 150 people were forced to flee their homes. Two street children also had to be rescued under the bridge on Panganiban St. in Cebu City after the water level rose suddenly. Three houses in barangay Candulawan in Talisay City were

reportedly washed out. Four others were damaged in sitio Caduloy, barangay Tisa in Cebu City. A foot bridge in White Road, barangay Inayawan in Cebu City was also destroyed. At least 30 families in Kinalumsan River and around 100 families along the stretch of the Guadalupe River were affected.

H. USERS OF GUADALUPE DOWNSTREAM

The users of the river are the households and establishments around the river. The surrounding barangays are Pasil, San Nicolas, Calamba, and Sambag II. There are varied establishments near the river such as schools, churches, hospitals, stores, gas stations, and other private companies.

I. CAUSERS OF POLLUTION

Informal Settlers Community

Communities are living at the sides of the Guadalupe River which mainly contribute to the pollution in the river. These families live near the river because they do not have another place to live in. The government could not provide a relocation site for these citizens, hence they stayed for quite some time near the river.

Establishments without Discharge Permit

Commercial establishments near the river are required to comply for a Discharge Permit to dispose waste to the river. This is to make sure that no toxic wastes are thrown that may harm the community and cause more pollution in the river. But then, it is found out that majority of these establishments don't have Discharge Permits despite disposing their wastes to the river for a quite time already.

J. POLICIES IMPLEMENTED

- Presidential Decree No. 1586
 - Philippine Environmental Impact Statement System
- Republic Act No. 6969
 - Toxic Substances and Hazardous Waste Control Act of 1990

- Republic Act No. 8749
 - Clean Air Act of 1999
- Republic Act No. 9512
 - Environmental Awareness and Education Act of 2008
- Republic Act No. 9003
 - Ecological Solid Waste Management Act of 2000
- Republic Act No. 9275
 - Philippine Clean Water Act of 2004
- Presidential Decree No. 1067
 - Water Code of the Philippines

A fine ranging from Php 1,000 – Php 50,000 if caught violating the anti-littering ordinance.

RESOURCES:

[1] D. Letigio, "Guadalupe River's rehabilitation continues with Cenro's lead," Cebu Daily News, August 14, 2019. [Online], Available: <https://cebudailynews.inquirer.net/251386/guadalupe-rivers-rehabilitation-continues-with-cenros-lead> [Accessed April 19,2021].

[2] DENR, "Officially Classified Waterbodies in Region VII as of March 2020," in DENR MEMORANDUM CIRCULAR No. 2000-10. denr.gov.ph, [online database], 2020. Available: <https://r7.emb.gov.ph/wp-content/uploads/2020/03/WaterBodyInventory.pdf> [Accessed April 19,2021].

[3] D. Letigio, "20 tons of garbage gathered in Guadalupe River clean-up drive," Cebu Daily News, August 14, 2019. [Online], Available: <https://cebudailynews.inquirer.net/251961/20-tons-of-garbage-gathered-in-guadalupe-river-clean-up-drive-mahiga-creek-to-follow> [Accessed April 19,2021].

[4] R. Albuero, L.M. Villegas, and F.Cabanag, "Risk Assessment of Mahiga and Guadalupe Rivers of Metro Cebu, Philippines," Tropical Technology Journal, vol. 18, no. 2, December 2015. [ISSN: 1656-0264]. Available: <http://jatm.ctu.edu.ph/index.php/ttj/article/view/88> [Accessed April 19,2021].

[1] J. Napallacan, J.S. Bunachita, M. Cabahug, "Rivers Overflow," Cebu Daily News, September 16, 2015. [Online], Available: <https://cebudailynews.inquirer.net/68623/rivers-overflow> [Accessed April 19,2021].