

STREAM GAUGING DATA COLLECTION

The Dominica Experience



Global Water
Partnership
Caribbean

Case Study

STREAM GAUGING DATA COLLECTION IN DOMINICA

BACKGROUND

Gauging is the measurement of the water's level or flow in a stream or channel. Stream gauges compile crucial parameters like flow and temperature. This data is used to track water flows, ensure the protection of natural resources, predict floods, and distribute water during dry spells.

The country of Dominica currently conducts gauging infrequently, therefore, to address this inconsistency, from October 2021 to October 2022, and funded by the **Small-scale Integrated Water Resources Management (IWRM) Grants** from the **Global Water Partnership-Caribbean (GWP-C)**, Dominica Water and Sewerage Company Ltd. (DOWASCO) established a data collection plan to double the pilot locations. The project focused heavily on capacity building of employees who oversaw gauging at these locations.

ACTIONS TAKEN

DOWASCO was able to gather data from water locations that were not available in previous years. The team members who were responsible for the stream gauging benefited from training using equipment they had never handled before and from the opportunity to learn more about the benefits and methods of stream gauging.

Data was collected from eight river locations:

1. Bense
2. Calibishie
3. Castle Bruce
4. Coulibistrie
5. Crapaud Hall
6. La Plaine
7. Picard
8. San Sauveur

Due to conditions at the site, some locations were done more frequently than others.

In general, the project accomplished the following objectives:

- Staff trained to collect more streamflow data within a given timeframe;
- The compilation of a systematic, structured, and efficient streamflow database;
- Informed decision-making.

In the future, long-term plans call for creating a database and extending the collecting of stream data to additional water bodies. Additionally, it would be beneficial to train more staff members on how to utilize the tools and include stream flow collection into their usual workdays.

By utilising improved information and data, further hydrological and meteorological analysis can be performed, assisting in better water system planning and management, especially in the age of climate change.





Figure 1: Photo collages showing Stream Flow Data Collection during the course of the project.

LESSONS LEARNED

A handful of the places to be measured for new developments were altered. The reasons ranged from the streams being too tiny for the equipment to be used, and not having enough employees to cover the initial number of sites specified, to prioritizing areas that have not been done in a while.

One issue encountered related to the equipment purchase; unanticipated difficulties with the supplier caused the project's start date to be delayed by a few months. Another challenge was conducting measurements during the rainy season, when flash floods made it difficult to reach secure areas where the data could be gathered.

As a result, the project's start date had to be postponed by a few months to solve the challenge of the delayed procurement. Adjusting the schedule to a favourable date was the only way to gauge during the wet season and prevent flooding.

To sum up, the key takeaways from the project's implementation were as follows:

1. For the project to be successful, a committed workforce is required; employees must be dismissed from their regular duties to permit data collecting.
2. Data collecting during the rainy season (June to November) is risky due to the possibility of flash floods and the depth of rivers and streams.
3. The staff became aware of how simple the tools are to use and how rapidly data can be gathered.

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Key Themes: Hydrogeological mapping - Integrated Water Resources Management (IWRM) - Groundwater Management – Hydrology – Dominica – Capacity Building