

Application Note – Monitor and measure pollutants in a heavily populated Bay area.

Customer Requirements

The Environmental Protection Authority in Australia is obliged by an Act of Parliament to monitor the condition of Port Phillip Bay. To achieve this, there was a need to measure the ecological consequences of wastewater outflows from Melbourne and the Bay's capacity to cope with it. The city sits on the Yarra River with three other main flows into the Bay from the Werribee Sewerage Farm, Patterson and Werribee Rivers. The Marine Sciences Laboratories were chosen to map the discharge plumes from these outflows over a 12-month period. The information the scientists needed was on temperature, salinity, acidity, dissolved oxygen, nitrates, phosphates and chlorophyll levels.

Equipment

DT500
CEM (Channel Expansion Module)

Sensors

Temperature, Salinity, Acidity, Dissolved Oxygen, Nitrates, Phosphates, Chlorophyll

Datataker Solution

As part of a specially equipped launch, the *dataTaker* DT500 was installed to record the mass of information generated by the sensors, greatly simplifying the collection of data during the project. The water was pumped continuously from 1.5 metres below the surface, through the array of sensors, which measured temperature, salinity (reduced salinity because of increased fresh water can lead to damage to marine life) acidity, dissolved oxygen, nitrates, phosphates and chlorophyll.

The *dataTaker* data logger's ability to record electric current and resistance as well as voltage was also an advantage.

The cruises took place over a four-day period quarterly for the year.

Interim reports revealed there had not been serious damage to marine life, although there was plenty of evidence of the city's outpourings.

It was found that some of the major flows into the Bay occur only intermittently, although influences of the Yarra River were found on every sampling.

If you need more detail on this application please contact joyce.reid@datataker.com.au

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