# GoFIB

## Swimming Risk Nowcast

**Swimming advisories are out-of-date by the time they are issued**


The risk of people becoming ill due to swimming in water that is contaminated by microbial pathogens is typically assessed from water samples. Samples are sent to the laboratory for culturing of faecal indicator bacteria (FIB), and the results are used to assess swimming risk. Public swimming advisories are issued when the risk exceeds a pre-determined threshold.

The problem with this approach is that it takes the laboratory 24–48 hours to analyse the water samples and deliver the results. At best, then, swimming advisories issued to protect public health indicate that it was unsafe to swim *yesterday*. Clearly, this is not ideal: the public needs to know whether it is safe to swim *now*.

### SOLUTION: MAKE NOWCASTS WITH GOFIB

GoFIB has been developed by Dr Chris Dada at Streamlined Environmental Ltd to make swimming risk "nowcasts".

GoFIB predicts FIB concentration and assesses swimming risk instantly given hydrological (e.g., water discharge) and/or meteorological (e.g., rainfall) input data. Using GoFIB, swimming advisories can be issued immediately as hydrological and/or meteorological data stream into the office.

### HOW GOFIB WORKS

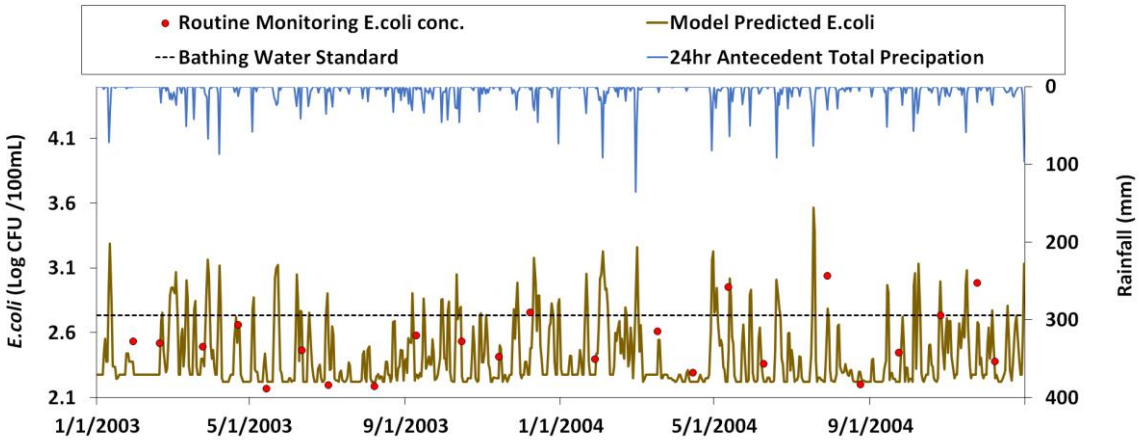
GoFIB is implemented on a site-by-site basis. Historical site data are used to construct a sophisticated mathematical relationship between input data and FIB concentrations. Once constructed, this relationship can be used to make FIB concentration nowcasts.

The more historical data that are used to construct the mathematical relationship, the more accurate the nowcasts will be. Accuracy can be improved by including water quality data such as visual clarity in the analysis.

### GOFIB IS BEING USED

We've already implemented GoFIB for Lake Rotorua, streams in the Bay of Plenty and in Marlborough, with further sites in the Bay of Plenty being negotiated.

## WHY CHOOSE GOFIB?

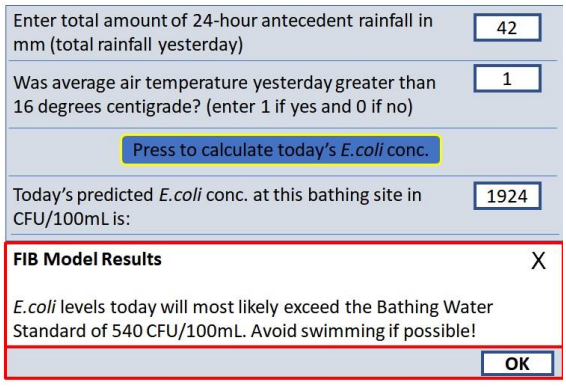



✓ **No specialist training required** – GoFIB is easy to operate and requires no specialist training to run.

✓ **No special computing hardware required** – GoFIB is written in the Visual Basic programme language, hosted within an Excel framework. GoFIB will run on any desktop PC (Windows or Mac).

✓**Affordable** – Implementing GoFIB costs about $5k/site. Before this happens, we do exploratory data analysis for the site in question (2–3 hours of work) to assure ourselves and the client that a robust predictive model is possible.

✓ **Integration with real-time systems** – GoFIB can be integrated with real-time water quality data-processing systems to generate continuous FIB nowcasts. Alternatively, GoFIB can be used as an interactive, stand-alone model to service recurring or *ad hoc* requests for FIB nowcasts.




✓**Peer-reviewed** – The methodology used in GoFIB is published in a leading international journal (Water, Air & Soil Pollution, 2016, http://link.springer.com/article/10.1007/s11270-016-3033-6).

✓**Performance** – We assess the performance of GoFIB against published minimum performance standards, e.g., model sensitivity must be greater than 50% and specificity greater than 80%.

## CONTACT US FOR A DEMONSTRATION OR FOR MORE INFORMATION


**Phone (07) 974 4678** **info@streamlined.co.nz** **www.streamlined.co.nz**

Streamlined Environmental Ltd, 510 Grey Street, PO Box 7003, Hamilton East, 3247, New Zealand