

The Need for Speed - Rapid Methodologies to Determine Bathing Beach Water Quality

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**Year of Water:
Thirty Years of Progress
Through Partnering**



The Problem

The Jones family of Bayside, California, goes to the beach on **Saturday**.
But the Bayside Health Department won't know until **Sunday** if the water is safe for swimming!

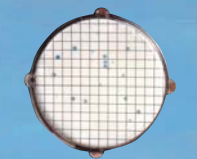
Why?

Current microbiological methods designed to determine if it is safe to swim at marine and freshwater beaches **require 24 hours for results to become available.**

The Solution

The National Exposure Research Laboratory- Cincinnati is developing/evaluating **rapid methods (results in 2 hours)**, so that people will know **BEFORE** they go to the beach whether it is safe to swim.

The presence of fecal indicator bacteria in recreational waters indicates that pathogenic bacteria, viruses and/or protozoan parasites might also be present. Three new methods to detect these indicator bacteria are currently being evaluated:

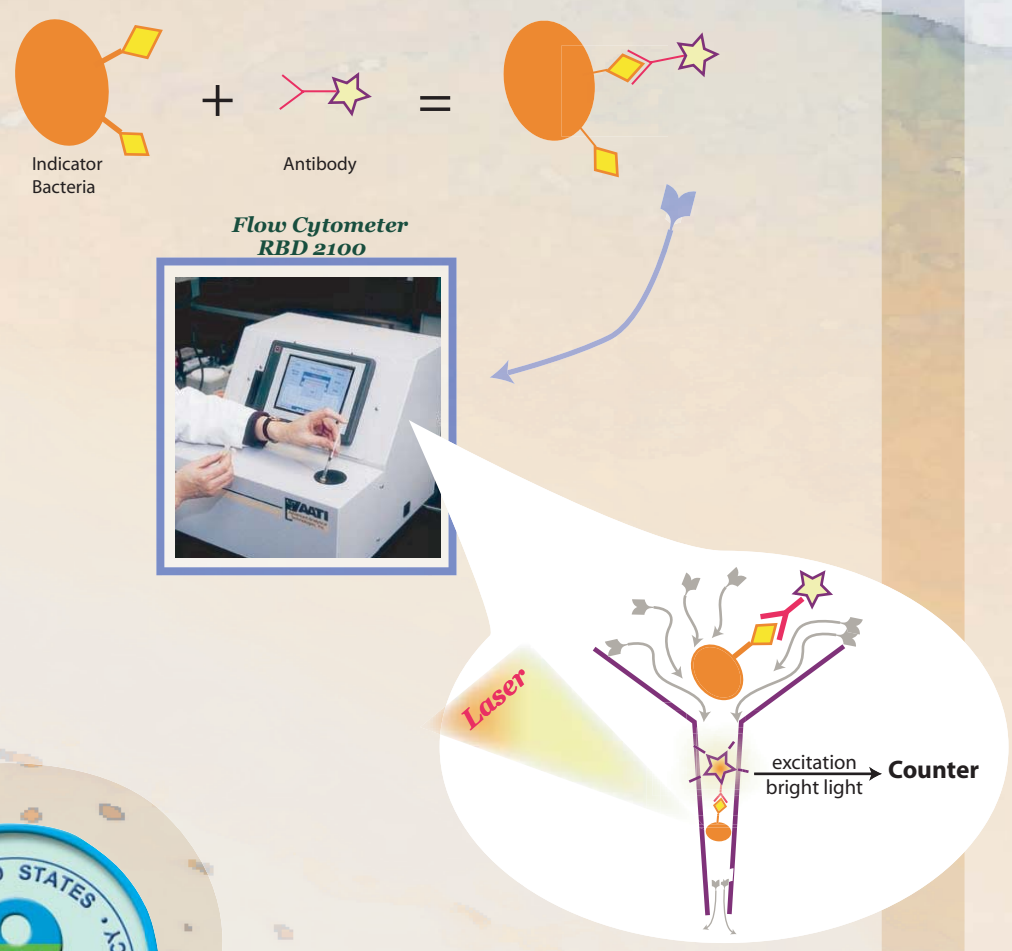


Enterococci colonies on mEI agar

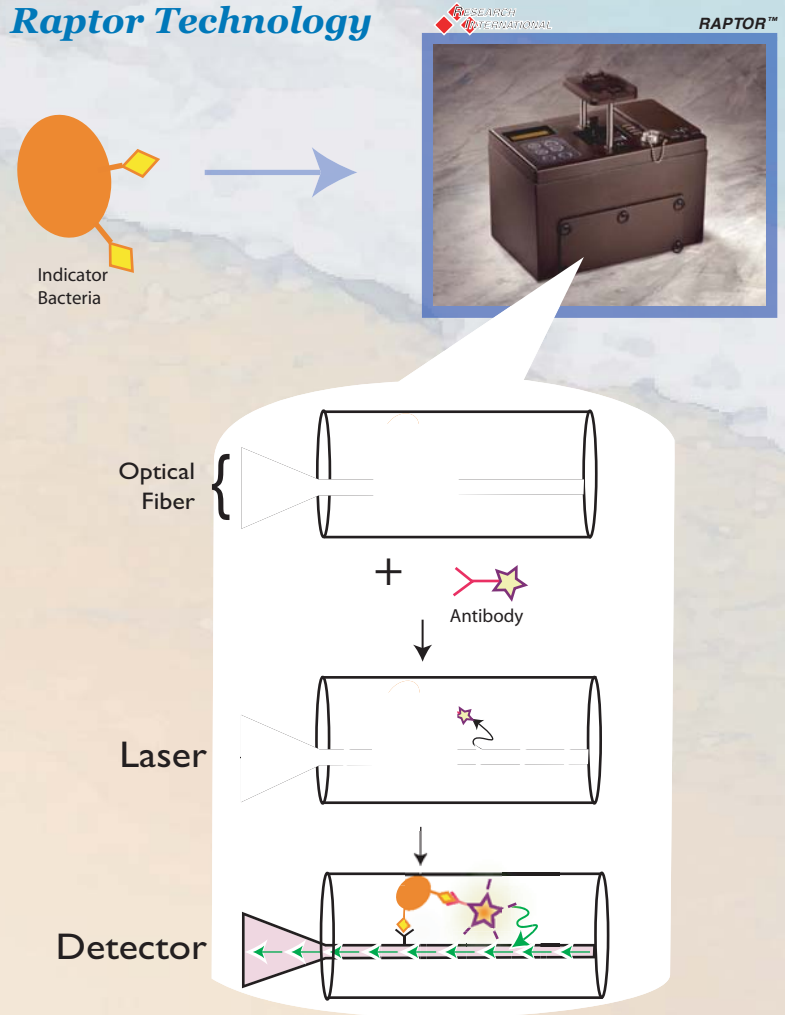


Methods:

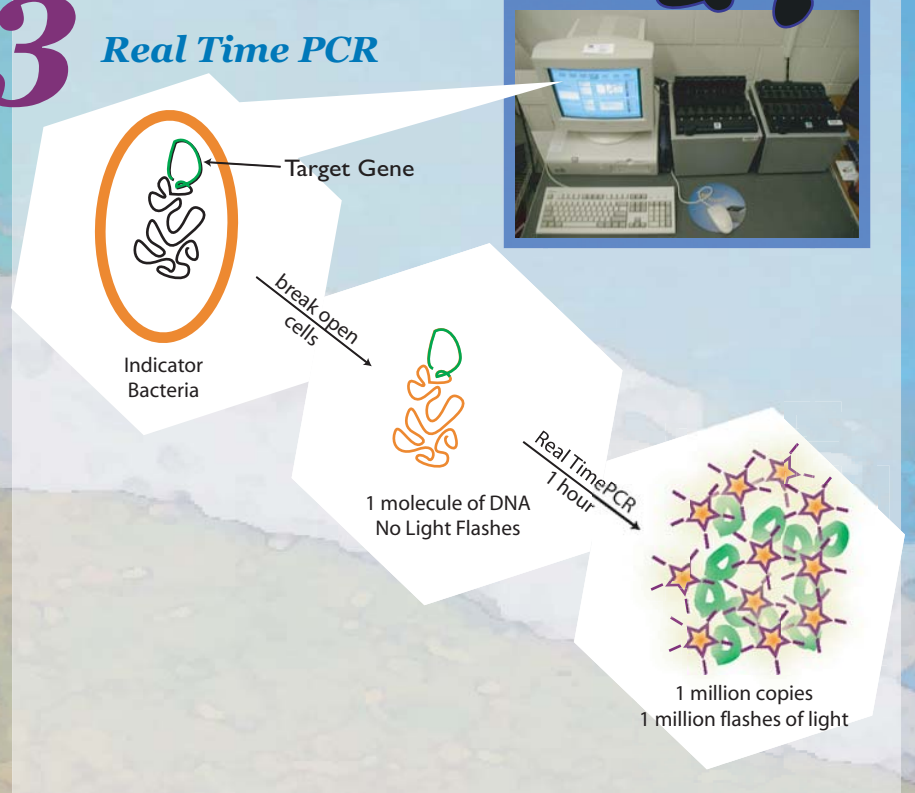
1 Flow Cytometry



or 2 Raptor Technology



or 3 Real Time PCR



Impact

Beach managers and public health officials will be able to alert the public about potential health hazards before exposure to unsafe water can occur, resulting in less waterborne disease.

