HOW SAFE IS OUR WATER?

Minerva Lara, Karla Martinez, Mary Kasmajian

12890 Harding St. Sylmar CA 91342

Materials

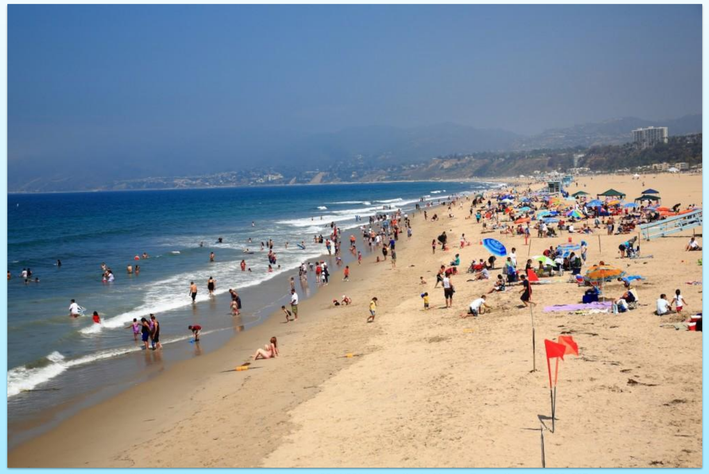
Materials	Quantity
Sterile Jars	16
pH meter	1
Coliscan EasyGel	16
Incubator	1
Membrane Filters	16
Samples of ocean/Lake water	16
LB Broth	16
Thermometer	3
Plate counter	1
Petri dishes: sterile	16
Bunsen burner	1
Cooler/fridge	1
Vacuum filter	1
Deionized water	1

https://thefisheriesblog.files.wordpress.com/2013/07/5ef91-screenshot2013-07-21at8-01-12pm.png

https://claireталbot.files.wordpress.com/2013/10/img_0281.jpg

Problem

Oceans and Lakes become polluted that can cause great danger to public health and ecosystems. What exactly is the contamination level at each of these waters ?



https://www.californiabeaches.com/wp-content/uploads/2014/09/bigstock-Santa-Monica-Beach-Custom-1000x667.jpg

Project Overview

Water samples will be obtained from various locations including Hansen Dam, Lake Balboa, Santa Monica Beach, and Long Beach. The goal is to quantify and determine the contamination levels at each of these public sites.Numerous studies have indicated the need to assess the microbiological quality of bathing beaches and other public water sources.

Procedure

-Obtain water samples at these locations: Hansen Dam, Lake Balboa, Santa Monica Beach, Long Beach.

-Using a proper sterile technique and jars the water samples were obtained. Record temperature of sample, air temperature, date, color of sample, visual turbidity, photograph sample, evidence of sewage or kelp or plants, number of people near the site.

-Transport sample via cooler keeping it below 10C. Each water collection site will have 3 samples.

-Use membrane filter technique to test the large sample volume of water. Use 0.45micrometer membrane filter size with filter funnel and vacuum.

-Pour plates with the Coliscan easygel, adding filtered sample to each, and place overnight at 37C incubator. Remove the next day and record colonies and plate count.

References

Whitman, R., Harwood, V. J., Edge, T. A., Nevers, M., Byappanahalli, M., Vijayavel, K., … Solo-Gabriele, H. M. (2014). Microbes in Beach Sands: Integrating Environment, Ecology and Public Health. *Re/views in Environmental Science and Bio/technology (Online)*, *13*(3), 329–368. http://doi.org/10.1007/s11157-014-9340-8

http://mpcb.gov.in/envtdata/LSD-NEERI-%20Water%20Quality%20Analysis.pdf

https://microbeonline.com/membrane-filter-technique/