



Beach 101

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# Where to sample?



Defined swimming area



**Water samples collected, store on ice, < 6 hour holding time**

**Give lab 2 hours to prepare samples**

# Some of the *E. coli* Methods approved by the US EPA

*Current methods requires incubation time*

m-Tec, 24 to 48 hours

IDEXX Colilert, 24 hours

IDEXX Colilert-18, 18 hours

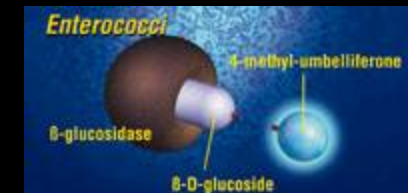
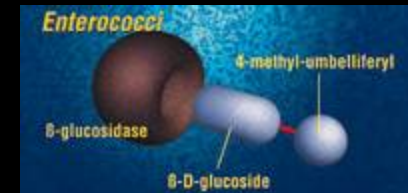


# Some of the *enterococci* Methods approved by the US EPA

*Current methods requires  
incubation time*

USEPA Method 1600  
(mEI agar) 24 hours

IDEXX Enterolert, 24 hours



**Monitoring Program  
Requirements  
depend on...**

**Location, Funding, & Laws**

**federal, provincial, state, and local**

# WQS Fresh Water

Ontario

100 *E. coli* /100 ml

Health Canada

200 *E. coli*/100 ml

USEPA standards

Single Sample

235 *E. coli* /100 ml

62 *Enterococci* /100 ml

Geometric Mean

126 *E. coli* /100 ml

33 *Enterococci* /100 ml



Michigan

daily geomean = 300 *E.coli*/100 ml

30-d geomean = 130 *E.coli*/100 ml

# Standards for Marine Water

USEPA bacteria standards  
for **Single Sample**

104 *Enterococci* cfu/100 ml

USEPA & Health Canada  
bacteria standards for  
**Geometric Mean**

35 *Enterococci* cfu/100 ml

**Hawaii**

***Clostridium perfringens***

<50 cfu/100 ml stream

<5 cfu/100 ml coastal water



**Inland lakes are *not* eligible to use federal BEACH Act funds**

**Inland lake beaches may have state laws and local ordinances**



## **Monitoring Costs for traditional methods**

**\$ 75 to \$100 sanitary survey**

**\$14 to \$20 per sample for analysis**

**\$13 per hour for students**

**Training, Equipment,  
Computers, Mileage, Publishing**

**IMMEDIATE REPORTING REQUIRED**

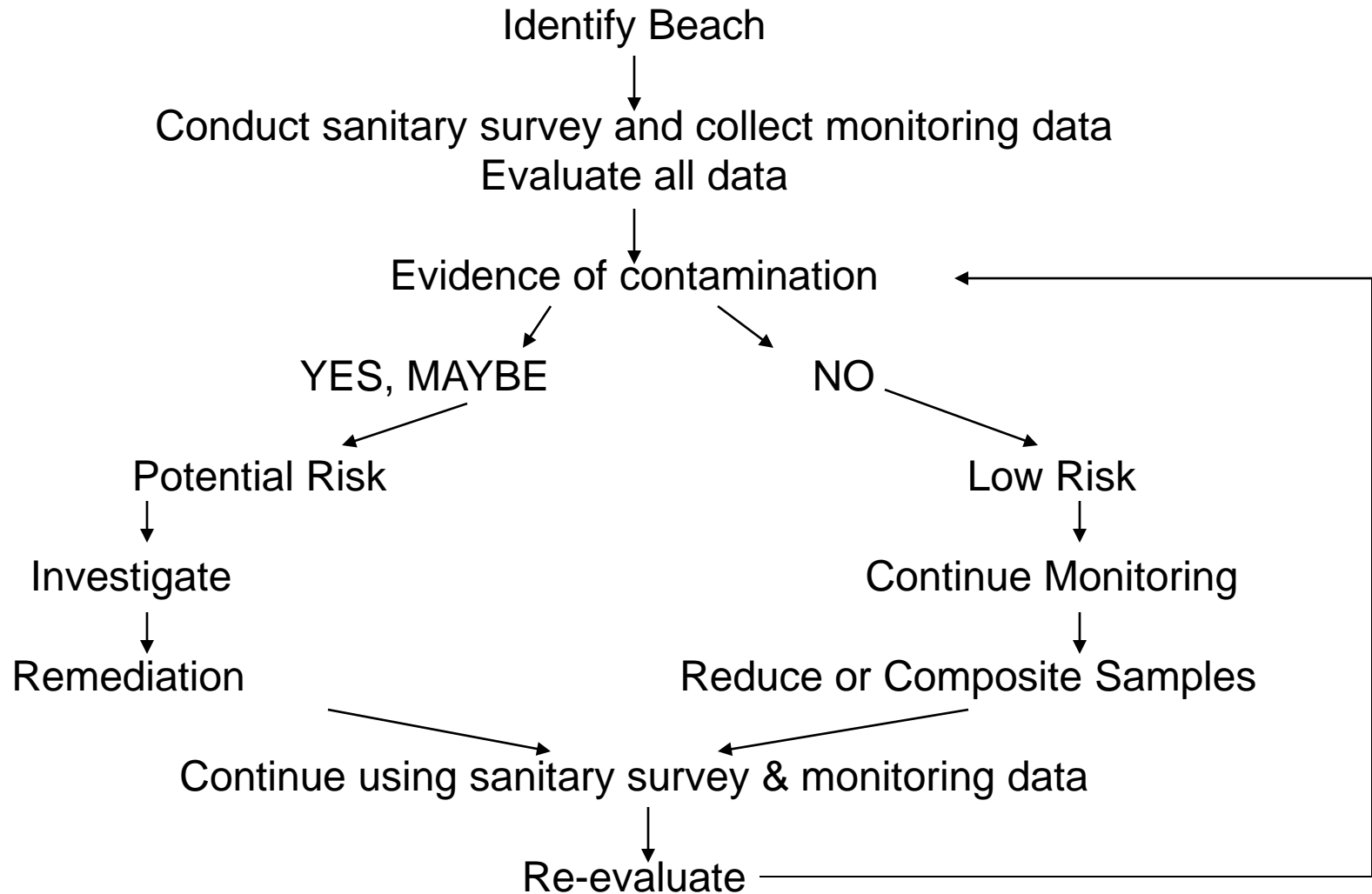
***At least \$100 cost per sample event***

# Notification Signs



required in Michigan by Health Code, and BEACH Act grant requirements

# Monitoring Summary



[beachnet@great-lakes.net](mailto:beachnet@great-lakes.net)



Your link to 800+ members working with  
beaches and water quality and  
200 of them at the conference!