



E. coli and Beach Monitoring

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E. coli and Beaches in the News

Health
Poop is no laughing matter with many metro beach closures this summer
Mark Zdechlik Minneapolis August 29, 2019 10:34 a.m.




Twin Cities beach closed down after E.coli found in water
The Lake Minnewashta Regional Park Beach is closed till further notice.
ADAM UREN · JUL 1, 2018

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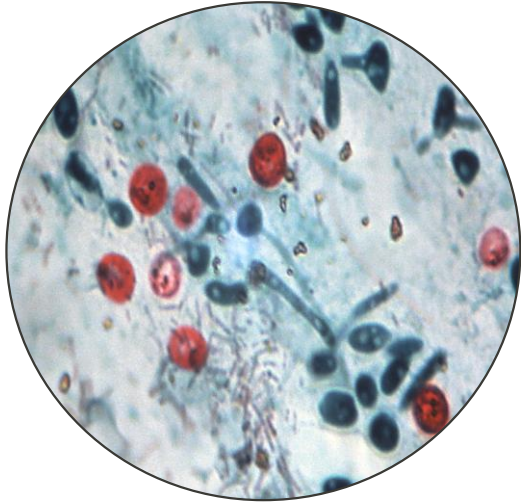
Outside in MN
Beach closed? Blame it on the rain
Dan Gunderson July 10, 2019 2:35 p.m.



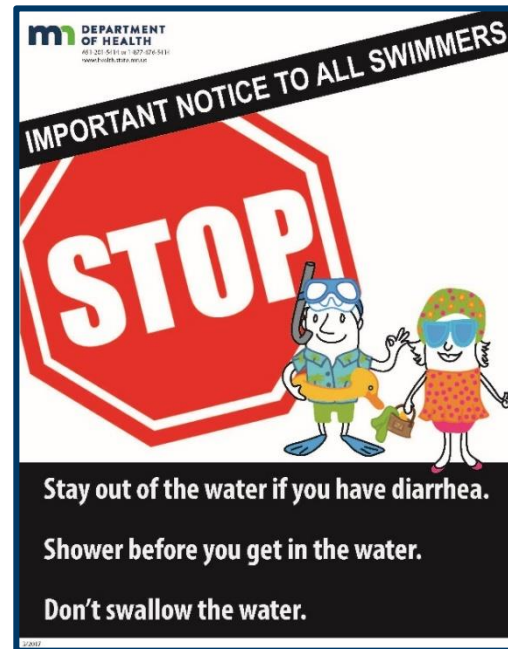
Illness cases at Lake Nokomis grow to 69; other Minneapolis beaches remain closed
Half of beaches in Minneapolis remain closed after another round of testing.
By Miguel Otárola Star Tribune | AUGUST 20, 2019 — 10:35PM



Waterborne Diseases Unit



Reportable Disease Surveillance



Disease Outbreak Investigations



Studies on Waterborne Illness



Education & Outreach

Waterborne Illnesses from Lakes

Brain infections
Naegleria fowleri
(brain-eating amoeba)

Ear infections
Swimmer's ear

Diarrheal illnesses
Cryptosporidium, Giardia,
E. coli O157, Shigella,
Norovirus

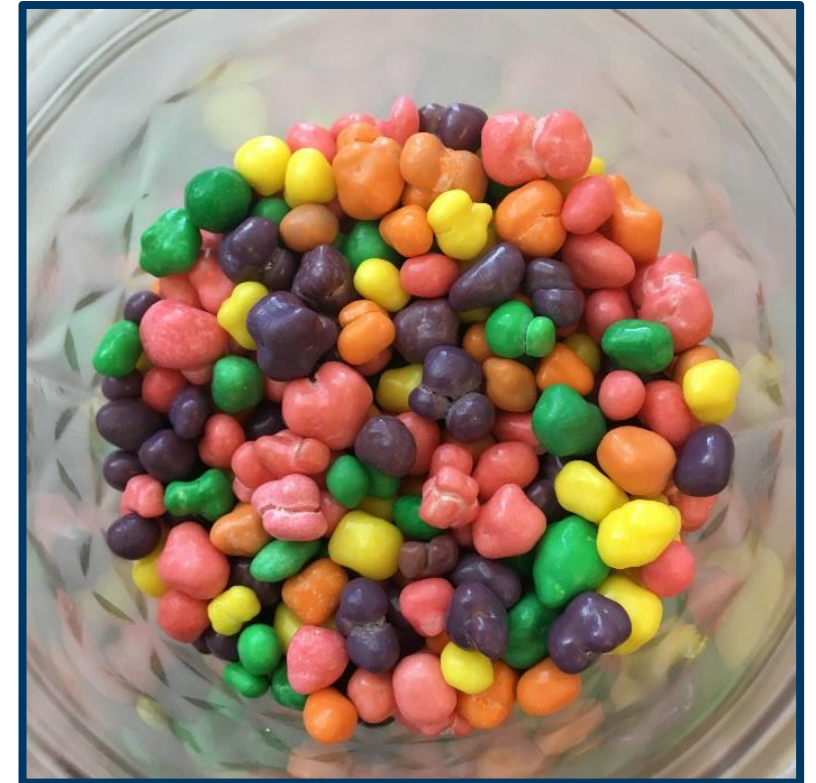
Skin infections
Swimmer's itch

Multiple symptoms
Harmful algal blooms



How Are Diarrheal Illnesses Spread in Water?

- On average people have 0.14 grams of feces on their bottoms, which when rinsed off, can contaminate the water
- When someone is ill with diarrhea their stool contains millions of germs
- Swallowing even a small amount of contaminated water can make a person sick



Lake Superior Beach Monitoring Program

- **Monitor 38 public beaches along Lake Superior**
- **Only beach monitoring program conducted by the Minnesota Department of Health**
- **Conducted as part of the National BEACH Act**
- **Federally funded**

Beach Monitoring in Minnesota

- **Beach monitoring is at the discretion of the entity responsible for the beach**
 - **City, county, park district**
 - **Frequency of monitoring and criteria used for an advisory**

Beach Monitoring

- Goal is to help determine if beach water is safe for recreational activities and minimize the risk of people getting sick
- Small water sample collected at the beach
- Results available next day
- Advisory issued and beach closed if *E. coli* levels are too high
- Beach will reopen when *E. coli* levels are acceptable



E. coli in Water

- Sign there could be fecal contamination in the water that could make people sick
 - Humans or animals
- Hundreds of kinds of *E. coli* can be found in lakes that do not make people sick
- High levels of *E. coli* indicate the germs that make people sick might be in the water

2019 Lake Outbreaks

Lake Nokomis

- Pathogenic *E. coli*
- 69 people sick
- 1 in 4 people reported continuing to swim while sick with diarrhea

Lake Minnetonka

- 198 people sick
- Viral illness

Education and Outreach

- **Provide education and outreach to all swimmers**
- **How they can stay healthy at the beach**
- **How they can help keep the beach healthy for everyone**
- **Put out messages to the public**
 - **Website**
 - **Social media**
 - **Media and local partners**

Staying Healthy at the Beach and Lake: Minimize the Risk of Illness

- **Don't swallow the water**
- **Shower after swimming**
- **Avoid swimming after a rain event**
- **Avoid swimming at beaches where you can see discharge pipes**
- **Avoid swimming if you see a blue-green algal bloom**

Staying Healthy at the Beach and Lake: Help Keep the Water Healthy for Everyone

- **Stay out of the water if you have diarrhea**
- **Shower before swimming**
- **Take frequent bathroom breaks**
- **Change diapers frequently and away from the water**
- **Dispose of trash properly**
- **Maintain septic systems**
- **Don't encourage waterfowl by feeding ducks, geese, or other birds**

Gaps and Opportunities

- **Changing climate conditions**
 - *Naegleria fowleri* (brain-eating amoeba)
 - Harmful algal blooms
- **No centralized location for beach monitoring results**
- **No centralized location for alerts in place at a beach**
- **No system for evaluating monitoring results to determine best practices**



Thank You!